

SPARE PARTS CATALOGUE

Number	45251-45255
Installation	UNITY PH3
Engine type	18V32LN
Engine number	PAAE023375, PAAE023376
Specification	173456

This spare parts catalogue is intended for the personal use of engine operators and should always be at their disposal. The content of this manual shall neither be copied nor communicated to a third person.



© Copyright by Wärtsilä Finland Oy

All rights reserved. No part of this booklet may be reproduced or copied in any form or by any means (electronic, mechanical, graphic, photocopying, recording, taping or other information retrieval systems) without the prior written permission of the copyright owner.

THIS PUBLICATION IS DESIGNED TO PROVIDE AN ACCURATE AND AUTHORITATIVE INFORMATION WITH REGARD TO THE SUBJECT-MATTER COVERED AS WAS AVAILABLE AT THE TIME OF PRINTING. HOWEVER, THE PUBLICATION DEALS WITH COMPLICATED TECHNICAL MATTERS SUITED ONLY FOR SPECIALISTS IN THE AREA, AND THE DESIGN OF THE SUBJECT-PRODUCTS IS SUBJECT TO REGULAR IMPROVEMENTS, MODIFICATIONS AND CHANGES. CONSEQUENTLY, THE PUBLISHER AND COPYRIGHT OWNER OF THIS PUBLICATION CAN NOT ACCEPT ANY RESPONSIBILITY OR LIABILITY FOR ANY EVENTUAL ERRORS OR OMISSIONS IN THIS BOOKLET OR FOR DISCREPANCIES ARISING FROM THE FEATURES OF ANY ACTUAL ITEM IN THE RESPECTIVE PRODUCT BEING DIFFERENT FROM THOSE SHOWN IN THIS PUBLICATION. THE PUBLISHER AND COPYRIGHT OWNER SHALL UNDER NO CIRCUMSTANCES BE HELD LIABLE FOR ANY FINANCIAL CONSEQUENTIAL DAMAGES OR OTHER LOSS, OR ANY OTHER DAMAGE OR INJURY, SUFFERED BY ANY PARTY MAKING USE OF THIS PUBLICATION OR THE INFORMATION CONTAINED HEREIN.



CONTACT WÄRTSILÄ

Any time...



Service Department

Wärtsilä Finland Oy, Service

P.O.Box 252, FIN-65101 Vaasa, Finland

**During office hours (7.30-16.30) call operator
+358 10 709 0000 or any direct dial number.**

Wärtsilä Finland Oy, Service

P.O.Box 50, FIN-20810 Turku, Finland

**During office hours (7.30-16.30) call operator
+358 10 709 0000 or any direct dial number.**

Mobile Telephone Numbers

Nights and weekends please call mobile phone for service engineer or spare parts assistance.

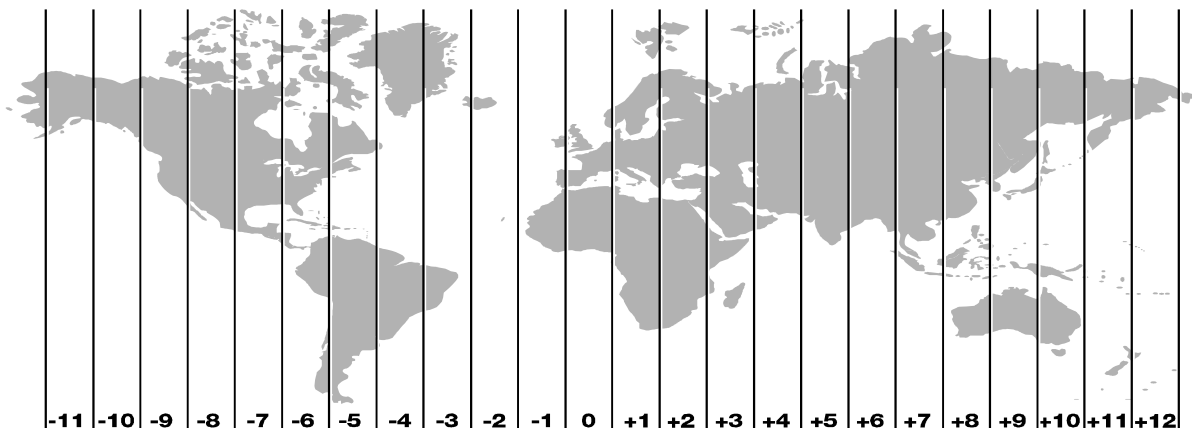
Phone: +358 (0)10 709 080

Wärtsilä homepage: www.wartsila.com

E-mail: service.solutions@wartsila.com

Service Telecopiers

+358 6 356 7355	Field Service, Resources	+358 10709 3455	Field Service
+358 10 709 1572	Service Sales Support	+358 10709 3179	Service Sales Support
+358 10 709 1380	- Americas	+358 10709 3410	- South Europe, Africa
+358 10 709 2787	- North, Central and East Europe		- Middle East, South Asia
+358 6 356 7336	- South East & E Asia		
+358 6 356 7339	- Finland	+358 10709 3181	Service Projects
	Service Projects	+358 10709 3279	Technical Service
+358 10 709 1847	Technical Service	+358 10709 3595	Training
+358 10 709 1271	Technical Service, Warranty Handling	+358 10709 3435	Documentation and Software Systems
+358 6 356 7376	Training	+358 10709 3435	Parts
+358 10709 2777	Documentation and Software Systems		
+358 6 356 7344	Parts		



Direct dial number to contact persons

During office hours (7.30-16.30)

Service Sales Support

Kimmo Kohtamäki
General Manager
+358 10 709 2860
Mobile:
+358 40 558 2372
kimmo.kohtamaki@wartsila.com

Päivi Hirvonen
Assistant in Vaasa
+358 10 709 2861
paivi.hirvonen@wartsila.com

South East & East Asia

Pasi Hautakoski
Regional Manager
+358 10 709 2826
Mobile:
+358 40 565 8237
pasi.hautakoski@wartsila.com

Kai Laine
Sales Support
Manager
+358 10 709 2838
Mobile:
+358 40 520 0801
kai.laine@wartsila.com

Middle East, India, Pakistan

Tom Backlund
Regional Manager
+358 10 709 3317
Mobile:
+358 40 729 2535
tom.backlund@wartsila.com

Kari Källvik
Sales Support
Manager
+358 10 709 3196
Mobile:
+358 40 507 0994
kari.kallvik@wartsila.com

North, Central & East Europe

Kari Koski-Tuuri
Regional Manager
+358 10 709 2875
Mobile:
+358 40 513 6876
kari.koski-tuuri@wartsila.com

Ton Makkee
Sales Support
Manager
+358 10 709 1860
Mobile:
+358 40 762 5563
ton.makkee@wartsila.com

South Europe, Africa

Keijo Nieminen
Regional Manager
+358 10 709 3235
Mobile:
+358 40 820 9235
keijo.nieminen@wartsila.com

Olli Laakso
Sales Support
Manager
+358 10 709 3062
Mobile:
+358 400 863 062
olli.laakso@wartsila.com

Americas

Juha Kuusisto
Regional Manager
+358 10 709 2842
Mobile:
+358 40 516 2902
juha.kuusisto@wartsila.com

Jim Andersson
Sales Support
Manager
+358 10 709 2065
Mobile:
+358 40 524 4370
jim.andersson@wartsila.com

Johanna Kilpinen
Assistant in Turku
+358 10 709 3260
johanna.kilpinen@wartsila.com

Sten-Eric Björkman
Sales Support Manager
+358 10 709 2822
Mobile:
+358 40 589 3443
sten-eric.bjorkman@wartsila.com

Jari Vataja
Sales Support Manager
+358 10 709 1305
Mobile:
+358 40 837 3305
jari.vataja@wartsila.com

Harri Leinonen
Sales Support Manager
+358 10 709 3314
Mobile:
+358 40 500 5498
harri.leinonen@wartsila.com

Janne Ahti
Sales Support Manager
+358 10 709 1307
Mobile:
+358 40 518 1776
janne.ahsti@wartsila.com

Kim Östman
Sales Support Manager
+358 10 709 1824
Mobile:
+358 40 836 5579
kim.ostman@wartsila.com

Hannu Koski
Sales Support Manager
+358 10 709 3144
Mobile:
+358 400 859 144
hannu.koski@wartsila.com

Klaus Westerinen
Sales Support Manager
+358 10 709 3281
Mobile:
+358 40 502 6882
klaus.westerinen@wartsila.com

Jarno Tunturi
Sales Support Manager
+358 10 709 2709
Mobile:
+358 10 751 8285
jarno.tunturi@wartsila.com

Finland

Vesa Honkela
Sales Manager

+358 10 709 2837
Mobile:
+358 40 550 8815
vesa.honkela@wartsila.com

Eero Hakala
Account Manager

+358 10 709 1632
Mobile:
+358 40 552 2512
eero.hakala@wartsila.com

Christian Wickström
Account Manager

+358 10 709 2746
Mobile:
+358 40 556 3947
christian.wickstrom@wartsila.com

Guy Blomquist
Account Manager

+358 10 709 3475
Mobile:
+358 40 592 0488
guy.blomquist@wartsila.com

Ville Packalén
Account Manager

+358 10 709 3642
Mobile:
+358 40 502 4472
ville.packalen@wartsila.com

Service Projects

Leif Enlund
Manager, Service
Projects

+358 10 709 2906
Mobile:
+ 358 40 501 9262
leif.enlund@wartsila.com

Jens Norrgård
Project Manager, Gas

+358 10 709 1876
Mobile:
+358 40 748 5586
jens.norrgard@wartsila.com

Mikael Karhulahti
Project Manager,
Electrical

+358 10 709 1845
Mobile:
+358 40 748 6632
mikael.karhulahti@wartsila.com

Technical Service

Krister Slotte
General Manager

+358 10 709 3406
Mobile:
+358 400 526 763
krister.slotte@wartsila.com

Ari Reunanen
Manager
Wärtsilä 46, 50DF

+358 10 709 3063
Mobile:
+358 40 835 8581
ari.reunanen@wartsila.com

Pia Jerkku
Assistant in Turku

+358 10 709 3178
pia.jerkku@wartsila.com

Stefan Wiik
Manager
Wärtsilä 20, Vasa 22, 24

+358 10 709 2394
Mobile:
+358 40 540 8740
stefan.wiik@wartsila.com

Nancy Dahl
Assistant in Vaasa

+358 10 709 2781
nancy.dahl@wartsila.com

Jonas Sundblom
Manager
Vasa 32, Wärtsilä 32 &
Wärtsilä 32, 34 Gas
Engines

+358 10 709 1835
Mobile:
+ 358 40 735 1835
jonas.sundblom@wartsila.com

Johan Pellas
Manager
Condition Based
Maintenance

+358 10 709 2806
Mobile:
+358 40 732 2687
johan.pellas@wartsila.com

Olli Tarvonen
Technical Manager
Wärtsilä 32, 34 Gas
Engines

+358 10 709 2783
Mobile:
+358 40 590 2256
olli.tarvonen@wartsila.com

Karl-Erik Lindholm
Manager
Automation & Control

+358 10 709 2790
Mobile:
+358 40 732 2689
karl-erik.lindholm@wartsila.com

Karl-Johan Nixholm
Technical Manager
Wärtsilä 32

+358 10 709 2807
Mobile:
+358 40 765 5807
karl-johan.nixholm@wartsila.com

Hans-Olof Norrgård
Manager
Warranty

+358 10 709 2710
Mobile:
+358 40 773 5531
hans-olof.norrgard@wartsila.com

Mats Lagström
Technical Manager
Vasa 32

+358 10 709 2804
mats.lagstrom@wartsila.com

Ingmar Ahlqvist
Manager
Documentation and
Software Systems

+358 10 709 2750
Mobile:
+358 40 725 9954
ingmar.ahlqvist@wartsila.com

Asko Vakkila
Documentation Manager
Prime Movers

+358 10 709 2756
Mobile:
+358 400 667 670
asko.vakkila@wartsila.com

Arto Nikula
Documentation Manager
Plant Installations

+358 10 709 1325
Mobile:
+358 40 748 2259
arto.nikula@wartsila.com

Hannu Salminen
Documentation Manager
Ship Installations

+358 10 709 3337
Mobile:
+358 40 838 5899
hannu.salminen@wartsila.com

Field Service

Thomas Nummelin
General Manager
Field Service

+358 10 709 2832
Mobile:
+358 40 508 3114
thomas.nummelin@wartsila.com

Tapani Syrjänen
Manager
Power Plants

+358 10 709 3359
Mobile:
+358 40 502 3562
tapani.syrjanen@wartsila.com

Niina Haapala-
Livera
Assistant in Vaasa

+358 10 709 2731
niina.haapala-
livera@wartsila.com

Tiina Mäkinen
Assistant in Turku

+358 10 709 3024
tiina.makinen@wartsila.com

Ralf Guldbrand
Manager
Field Service Resources

+358 10 709 1859
Mobile:
+358 40 767 8859
ralf.guldbrand@wartsila.com

Kaj-Erik Holm
Service Co-ordinator
Field Service Resources

+358 10 709 2836
Mobile:
+358 40 837 3882
kaj-erik.holm@wartsila.com

Reijo Seikkula
Service Co-ordinator
Field Service Resources

+358 10 709 3230
Mobile:
+358 40 769 1787
reijo.seikkula@wartsila.com

Ulf-Johan Björknäs
Manager
Marine Commissioning

+358 10 709 1152
Mobile:
+358 40 729 2182
ulf-johan.bjorknas@wartsila.com

Anders Ståhlgård
Service Co-ordinator
Power Plant < 380

+358 10 709 2862
Mobile:
+358 40 556 2862
anders.stahlgard@wartsila.com

Anders Bergfors
Service Co-ordinator
Electrical & Automation
Systems

+358 10 709 2856
Mobile:
+358 40 708 2856
anders.bergfors@wartsila.com

SPARE PARTS CATALOGUE

Table of Contents	Main group
General Instructions for Ordering Spare Parts	
Engine block, Bearings, Oil sump, Covers	100
Crankshaft, Flywheel, Connecting Rod, Piston	110
Cylinder Head with Valves	120
Intermediate Gears	130
Valve Mechanism, Camshaft	140
Charge Air System	150
Injection Equipment, Gas Manifold	160
Fuel Feed Pumps	170
Lubricating Oil Pumps, Thermostatic Valves	180
Cooling Water Pumps, Thermostatic Valves	190
Exhaust Manifold	200
Starting Equipment	210
Regulating Mechanism	220
Speed Measuring System	230
Manifold (Fuel, Lube Oil, Cooling Water, Starting Air etc.)	340
	350
Cleaning Device	370
Crankcase Ventilation	
Filters, Coolers	470
Engine Mounting	
Transducers, Instrument Panel, Thermometers	500
Connecting Pieces, Extension Shaft, External Connections	600

Structure and Usage of the Spare Parts Catalogue

To the Reader

Congratulations on the acquisition of your WÄRTSILÄ® engine. By reading these instructions about how to use the Spare Parts Catalogue you will be familiar with the structure and usage of the catalogue, but also how to order spare parts. In this way you will get a comprehensive view of the engine design and the structure and content of this catalogue. Adhering to the operation and maintenance instructions in the engine Instruction Manual and related documents is the best guarantee for safe operation. We believe you have made a profitable investment in your WÄRTSILÄ® engine and we know it will serve you for years. At the same time we thank you for the confidence you have shown in our products, our company and organisation.

Wärtsilä Finland Oy

Table of Contents

1. General
2. Table of Contents and Alphabetical Index
3. Spare Parts Sections and Interleaves
 - 3.1 General
 - 3.2 Spare Parts Section
4. Instructions for Ordering Spare Parts
 - 4.1 Mechanical Equipment
 - 4.2 Electrical Equipment
 - 4.3 Original Spare Parts
 - 4.4 Order Spare Parts Online
 - 4.5 Ordering
5. Updating of the Spare Parts Catalogue

1. General

The Spare Parts Catalogue is individually collated and specific for the installation and engine number(s) stated in the flyleaf of this catalogue.

When compiling this Spare Parts Catalogue the demands for interchangeability as well as former experiences of adaptability have been considered. Simple components are normally supplied as complete units. However, details exposed to wear may be supplied separately.

The customer will get information about prospective modifications and changes in the specifications when needed through the Service Bulletins. When modifications are made into the engine by the customer, the nearest Wärtsilä Service Office must always be informed about the changes in order to update the spare parts database etc., see section 5, Updating of the Spare Parts Catalogue.

Regarding spare parts for some of the sub suppliers components, e.g. governor, we refer to lists in the special instructions enclosed the documentation set. Tools needed for repair or maintenance of the engine and special equipment are to be found in the Instruction Manual for this engine.

Concerning the terminology used, see installation specific Instruction Manual.

Wärtsilä is continuously developing the products and reserves all rights to make technical changes and modifications without any notification in advance.

2. Table of Contents and Alphabetical Index

The Spare Parts Catalogue contains a *Table of Contents* and an *Alphabetical Index*. The *Table of Contents* the sections are in section number order and in the *Alphabetical Index* in section name order.

3. Spare Parts Sections and Interleaves

3.1 General

The Spare Parts Catalogue is divided into 15 chapters according to contents by using interleaves. Chapters are further divided into “Sections” to offer a detailed view of parts needed. A section can contain one or several pages, which are numbered 1, 2, 3 etc. The section number is located on the right side of the headline. A section number is build up of a three digit main group number and a two to four digit running number, e.g. 100-0002.

For a specific engine the section numbers will not be consecutive.

Note! The format and location of the section number, page number and edition may vary in older sections between different engine types due to modification of the layout and content.

3.2 Spare Parts Section

The upper part of the page is used for the illustration showing a detailed picture of the parts and the lower part of the page is used for the list of spare parts in the illustration. The spare parts section can consist of single parts, assembly units and spare parts kits and/ or sealing sets. If spare parts kits and/ or sealing sets are available, they are normally enclosed as the last page in a section, please note that normally the parts within these are not sold separately.

Note! The Remarks/ Notes on the spare parts page indicate if the Part No. can be ordered separately or is included in a spare parts kit only.

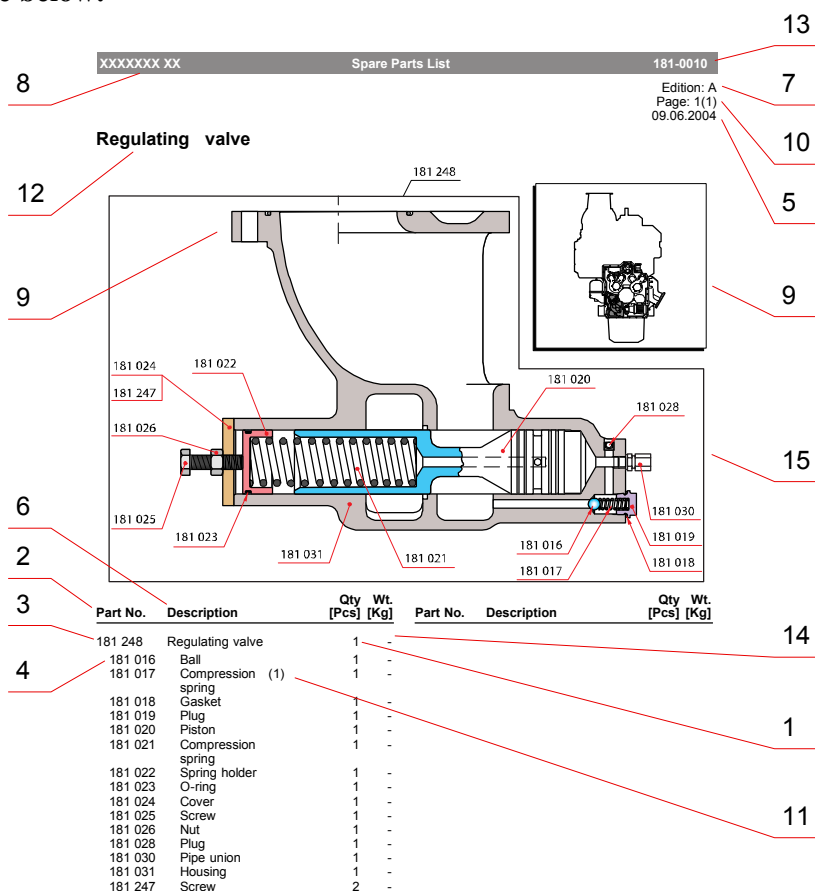
The part numbers can appear on three different levels. The following, indented sub level indicates that the spare parts is included in the previous part number of higher level. In other words, when there is a frame (15) around a group of parts, it indicates that all the parts with the part number inside the frame (Sub level) can be ordered by a single part number (Highest level). This number will point to the frame, see figure on page 4.

Alternative constructions (e.g. older version) may be described in the same section marked with "Alternative design".

Some sections include references to other sections, e.g. See Section 181- (to which the section in question is related) where connected parts or assemblies can be found. The development process may bring improvements causing modifications and changes to the engine. If the validity of the assembly units as spare parts does not change there is not necessarily any need for a new spare parts section.

If the number of the pages of a section is uneven, the last page is blank (left hand page). It includes e.g. the following text "This page is intentionally left blank".

The information presented in the spare parts sections are shown in the example figure below:



1. Qty = Quantity

The quantity (in pieces) that are normally needed for the assembly of the parts in the illustration.

Note! The number of pieces only indicates the necessary quantity for the shown assembly, not for the entire engine.

Total quantity of a certain part is sometimes given in a table at the end of the section.

Note! These numbers do not represent the quantity delivered as the quantity must be specified when placing an order.

Thin pipes (Ø 10 mm or thinner) and most of the electric cables may all be found under the same part number. This is due to the fact that these are delivered unbounded as metric goods. Even in these cases the quantity is "pcs" in the Spare Parts Catalogue. We recommend you to mention the length in meters when ordering. The quantity information can be missing in some sections.

2. Part No. = Part Number

The spare parts are numbered according to a code system based on function and part location in the engine. The Part Numbers are normally in ascending order.

The Part Number alone is not sufficient when ordering spare parts. In addition the engine number and the engine type must be related to the order, see section 4, Instructions for Ordering Spare Parts.

3. Highest level

When there is a frame around a group of parts, it indicates that all the parts with the part number inside the frame (Sub level) can be ordered by a single part number (Highest level). This number will point to the frame.

4. Sub level

See position 3 above.

5. Date

Release date of the section edition concerned.

6. Description

General description for the part.

7. Edition

The edition letter (A, B, C, and so on) indicates the state of change.

8. Engine type

Engine type concerned.

9. Illustration and enframed sketch

The upper part of the page is reserved for the illustration showing a detailed picture of the parts. An enframed sketch in the upper right corner shows the position of the illustration in relation to the entire engine or the system.

The illustrations are shown with part numbers indicating the position of each part. On the following page within the same section, there is normally an exploded view of the same parts or additional information regarding the section.

10. Page No

A section can contain one or several pages, which are numbered 1, 2, 3 etc.

Example 1(2), the number in parentheses stands for the total number of pages of the section.

11. Remarks

A number within brackets, i.e. (1), will appear after the description of the part when there is a special remark for this part and further information is given either at the bottom of the page or in the "Remarks" area of the section.

12. Section name

Name of the section concerned, e.g. Regulating valve.

13. Section No

Identification number for the section, e.g. 100-0002.

14. Wt. = Weight

The weight information can be found in the part list only, if this information has been available and for parts with a weight exceeding 0.1kg (100g). The weight information is missing in older sections.

4. Instructions for Ordering Spare Parts

4.1 Mechanical Equipment

Note! When ordering pipes with flange connection for different systems, some of these will be delivered as unwelded due to that fact that these are designed to be welded when being assembled.
The reason is that in this way the bending tensions are minimized and individual differences in connection to components and/ or other pipes are neutralized which also makes the assembly work easier.

4.2 Electrical Equipment

Engine mounted electrical equipment can be found in the Spare Parts Catalogue. When you order these parts, always use the part numbers.

As a rule, an Instrument/ Wiring Diagram with device list of the electrical equipment are included in the delivered documentation set. There you will find the descriptions and equipment function, switching and wiring diagrams, instrument and control panels, switching points and alarm values.

4.3 Original Spare Parts

The quality of parts is essential – only original parts guarantee reliability. All original parts have passed through extensive laboratory and field tests. Certain parts are manufactured under the supervision of the classification societies and then supplied with corresponding certificates. In line with Wärtsilä's commitment to environmental issues, we are also among the first to utilise IMO-codification of engine parts to comply with the modified IMO regulations.

4.4 Order Spare Parts Online

You can order spare parts via our global network or online via Wärtsilä's Spares Online application. Supported by electronic documentation, an operator can study a maintenance task, identify the components and order the required parts in one seamless operation. Spares Online makes Spare Parts Catalogues available on the Internet. Engine owners can access parts information for specific engine components and order the required parts. Contact us or read more detailed information from our website www.wartsila.com.

4.5 Ordering

Note! Spare parts orders must be based on the part numbers for the engine(s) concerned, please refer to the installation specific Spare Parts Catalogues delivered with the engine(s) concerned.

Please, rely on our global network (www.wartsila.com) and logistics organisation to ensure fast response times and immediate attention to all your spare parts needs, as well as secure economical, on-time delivery.

In order to make possible prompt delivery of spare parts, please always state the spare parts number and the name of part according to this catalogue as well as the engine type and the engine number when ordering. These statements are to be found on the engine name plate.

When ordering special equipment or some other part not included in this catalogue or in the Instruction Manual, please give the manufacturer's type designation and the serial number of the part. In case such an indication is missing, the part should be described as clearly as possible or, preferably, a sketch should accompany the order. The name of the consignee and the purchaser and their exact addresses as well as the method of forwarding should be stated. All orders given by telephone should be confirmed by email or fax. The parts required should be ordered direct from Wärtsilä or our nearest agent.

Addresses as well as our telephone numbers are given on the appendix called "Any time" at the beginning of this catalogue and in our website www.wartsila.com.

A complete order of spare parts should consequently include the following indications as per example below:

Engine type	Wärtsilä 6L32
Engine number	1570
Spare parts number	470 200
Name of part	Filter cartridge
Quantity	12
Consignee	Engineer A. Clipper M/S Brigitte c/o Seaforwarding Sea Port, Hull
Method of forwarding	Express air line
Purchaser	Ship-owners Atlanta Head Square, Birmingham E.C.

5. Updating of the Spare Parts Catalogue

The installation specific Spare Parts Catalogue must reflect the latest engine modifications and therefore may have to be updated periodically.

When modifications are made to the engine by the customer, the Wärtsilä Service Network must always be informed about the changes in order to update the spare parts database. This enables us to deliver the necessary spare parts with minimum time, effort and to ensure correct deliveries. However, it also enables us to deliver the Spare Parts Catalogue updates, if needed.

Update delivery includes a covering letter telling you which sections you should add and/ or replace in the Spare Parts Catalogue(s) concerned. Please note that with the update delivery you will also get an updated *Table of Contents* and an *Alphabetical Index*. The *Table of Contents* describes which sections you should have in your catalogue. The date located on the top left side of the each page indicates the version of the index.

Table of contents
UNITY PH3 - 18V32LN
PAAE023375, PAAE023376

**100 Engine block, bearings, oil sump
Covers**

Section	Description
100-002B	Hydraulic jack for main bearing cap
100-005D	Engine block and cylinder liner V32
100-008A	Cylinder liner with anti-polishing ring
100-010B	Suction pipe with screen case
100-014B	Oil sump
107-009D	Casings and covers V32
107-022A	Flanges for side covers
107-025B	Side covers
107-026D	Covers V32
107-031A	Side cover
107-032A	Side cover
107-0033C	Pump cover V32
107-0041A	Side covers

**110 Crankshaft, flywheel
Connecting rod, piston**

Section	Description
110-005D	Crankshaft V32
111-005A	Connecting rod
113-011A	Piston
114-007C	Flywheel

120 Cylinder head with valves

Section	Description
120-010C	Cylinder head with starting valve

120-011C	Cylinder head without starting valve
120-012F	Cylinder head
121-006B	Exhaust valve with rotocap
121-007A	Inlet valve with rotocap
123-001B	Starting valve
125-002B	Indicator valve
125-0004A	Cylinder head safety valve

130 Intermediate gears

Section	Description
131-003C	Intermediate gear for camshaft drive

140 Valve mechanism, camshaft

Section	Description
143-002C	Rocker arms and bearing bracket
145-002C	Valve tappet with guide block
148-014A	Camshaft V32
148-015A	Camshaft thrust bearing, B-bank

150 Charge air system

Section	Description
156-034A	Air bend for cylinder head
156-071G	Turbocharger
156-072B	Speed pickup
156-095A	Charge air system

160 Injection equipment Gas manifold

Section	Description
165-0009D	Injection pump
167-008B	Fuel injection pipe, shielded
167-009A	Connection piece for fuel injection valve
167-018A	Injection valve

180 Lubricating oil pumps, thermostatic valves

Section	Description
---------	-------------

181-0003F	Lubricating oil pump
181-0005B	Pressure control valve for lubricating oil
182-009A	Prelubricating oil pump
183-002B	Thermostatic valve for lubricating oil
184-001B	Oil dipstick

190 Cooling water pumps, thermostatic valves

Section	Description
191-007H	Water pump
196-009B	Thermostatic valve for LT water

200 Exhaust manifold

Section	Description
200-032A	Two-part ring for exhaust manifold
200-049A	Exhaust system V32
205-027B	Bracket between cylinder heads
205-0051A	Insulating box

210 Starting equipment

Section	Description
211-001B	Starting air distributor
213-003B	Stop lever and covers
214-002A	Starting blocking device
214-003A	Water outlet valve
217-003A	Main starting valve

220 Regulating mechanism

Section	Description
223-0008F	Governor drive V32 (clamp. ring conn.)
223-0019A	Governor drive
224-006D	Link levers and bearing support
224-007C	Regulating mechanism V32, A-bank
224-0008D	Regulating mechanism V32, B-bank
224-015A	Spring loaded rod
228-002B	Cylinder for pneumatic overspeed trip device
228-017C	Mechanical overspeed trip device

228-0018D	Air pipes for overspeed trip device
228-019A	Control air piping for starting booster
228-024A	Piping for pneumatic overspeed trip device

230 Speed measuring system

Section	Description
231-010A	Speed pick-ups
231-012A	Speed pick-ups

350 Manifold (fuel, lube oil, cooling water, starting air etc.)

Section	Description
350-053C	Cover for fuel pipes
350-0067C	Fuel system at free end
350-0083D	Fuel pipes from engine to base frame
350-085A	Pressure valve
350-088A	Pressure valve
350-0110A	Cover for fuel pipes
350-0122B	Fuel pipes
352-038E	Lubricating oil pipes to injection pump
352-049C	Lubricating oil pipes to camshaft
352-056A	Lubricating oil pipes
352-057A	Lube oil pipes for circulation water pumps
352-0105D	Lubricating oil piping
352-129C	Lubricating oil system for turbocharger
352-135A	Lubricating oil system
354-0073C	LT water system
354-0076C	Air vent pipes from air cooler
355-040A	HT-water pipes
355-0052D	Outlet pipes for HT-water
355-083D	HT water system
355-0112D	HT-water pipes between cylinder heads
355-139A	HT water pipes to charge air cooler
356-0006B	Oil mist alarm system
356-0011A	Pressure control valve
356-0012A	Oil mist detector

357-014B	Control air for starting fuel limiter
357-015B	Starting air system V32
357-016A	Control air piping
358-056B	Leak oil pipes V32, clean
358-059A	Leak fuel oil system, clean V32
358-0101B	Leak fuel system, dirty V32

370 Cleaning device Crankcase ventilation

Section	Description
372-057C	Dosing unit for wet cleaning of turbocharger
372-092A	Cleaning device for turbine
372-096A	Cleaning device for compressor
377-002A	Crankcase cover with relief valve
378-005B	Crankcase breather
378-006A	Ventilation pipes for Hot-box
387-0001A	Glue compounds
469-009B	Fastening of engine and generator

470 Filters Coolers

Section	Description
470-006H	Fuel filter
471-004B	Lubricating oil filter V32/V34
471-0006C	Running-in filter
473-0005G	Centrifugal filter
476-004B	Air cooler
482-007B	Shield for fuel and lubricating oil pipes
482-008A	Shields for lube oil pipes
482-009A	Shield for lubricating oil pipes
483-005A	Locking device
483-0006C	Turning device

500 Transducers, instrument panel, thermometers

Section	Description
501-005C	Connecting box for electrical system

501-013A	Connecting box
501-015A	Connecting box for temperature sensor
506-036A	Exhaust temperature measuring system
506-0078A	Temperature sensors for main bearings
507-020B	Pressure difference indicator
507-0034F	Temperature transmitter
507-043A	Temperature sensor for exhaust gas
507-069A	Assembling of bracket for pressure sensors
507-0095B	Pressure sensor for crankcase
507-106A	Flexible mounting of coupling box
507-108A	Equipment for pressure sensor
507-129A	Throttle valve
507-136B	Pressure sensors
508-002B	Lubricating oil alarm transducer
511-004C	Thermometers
516-013D	Instrument panel

600 Connecting pieces, extension shaft, electrical motors

Section	Description
600-003B	Connection piece for turbo/exhaust pipe
604-011A	Drain pipe for oil sump
604-099A	Accessories for common base plate
604-101A	Accessories for engine
609-004A	Orifice for 2-stage cooler

Alphabetical index

UNITY PH3 - 18V32LN

A

Description	Section
Air bend for cylinder head	156-034A
Air pipes for overspeed trip device	228-0018D
Air vent pipes from air cooler	354-0076C
Air cooler	476-004B
Assembling of bracket for pressure sensors	507-069A
Accessories for common base plate	604-099A
Accessories for engine	604-101A

B

Description	Section
Bracket between cylinder heads	205-027B

C

Description	Section
Cylinder liner with anti-polishing ring	100-008A
Casings and covers V32	107-009D
Covers V32	107-026D
Crankshaft V32	110-005D
Connecting rod	111-005A
Cylinder head with starting valve	120-010C
Cylinder head without starting valve	120-011C
Cylinder head	120-012F
Cylinder head safety valve	125-0004A
Camshaft V32	148-014A
Camshaft thrust bearing, B-bank	148-015A
Charge air system	156-095A

Connection piece for fuel injection valve	167-009A
Cylinder for pneumatic overspeed trip device	228-002B
Control air piping for starting booster	228-019A
Cover for fuel pipes	350-0110A
Cover for fuel pipes	350-053C
Control air for starting fuel limiter	357-014B
Control air piping	357-016A
Cleaning device for turbine	372-092A
Cleaning device for compressor	372-096A
Crankcase cover with relief valve	377-002A
Crankcase breather	378-005B
Centrifugal filter	473-0005G
Connecting box for electrical system	501-005C
Connecting box	501-013A
Connecting box for temperature sensor	501-015A
Connection piece for turbo/exhaust pipe	600-003B

D

Description	Section
Dosing unit for wet cleaning of turbocharger	372-057C
Drain pipe for oil sump	604-011A

E

Description	Section
Engine block and cylinder liner V32	100-005D
Exhaust valve with rotocap	121-006B
Exhaust system V32	200-049A
Exhaust temperature measuring system	506-036A
Equipment for pressure sensor	507-108A

F

Description	Section
Flanges for side covers	107-022A
Flywheel	114-007C
Fuel injection pipe, shielded	167-008B
Fuel system at free end	350-0067C

Fuel pipes from engine to base frame	350-0083D
Fuel pipes	350-0122B
Fastening of engine and generator	469-009B
Fuel filter	470-006H
Flexible mounting of coupling box	507-106A

G

Description	Section
Governor drive V32 (clamp. ring conn.)	223-0008F
Governor drive	223-0019A
Glue compounds	387-0001A

H

Description	Section
Hydraulic jack for main bearing cap	100-002B
HT-water pipes between cylinder heads	355-0112D
HT-water pipes	355-040A
HT water system	355-083D
HT water pipes to charge air cooler	355-139A

I

Description	Section
Inlet valve with rotocap	121-007A
Indicator valve	125-002B
Intermediate gear for camshaft drive	131-003C
Injection pump	165-0009D
Injection valve	167-018A
Insulating box	205-0051A
Instrument panel	516-013D

L

Description	Section
Lubricating oil pump	181-0003F
Link levers and bearing support	224-006D
Lubricating oil piping	352-0105D
Lubricating oil pipes to injection pump	352-038E

Lubricating oil pipes to camshaft	352-049C
Lubricating oil pipes	352-056A
Lube oil pipes for circulation water pumps	352-057A
Lubricating oil system for turbocharger	352-129C
Lubricating oil system	352-135A
LT water system	354-0073C
Leak fuel system, dirty V32	358-0101B
Leak oil pipes V32, clean	358-056B
Leak fuel oil system, clean V32	358-059A
Lubricating oil filter V32/V34	471-004B
Locking device	483-005A
Lubricating oil alarm transducer	508-002B

M

Description	Section
Main starting valve	217-003A
Mechanical overspeed trip device	228-017C

O

Description	Section
Oil sump	100-014B
Oil dipstick	184-001B
Outlet pipes for HT-water	355-0052D
Oil mist alarm system	356-0006B
Oil mist detector	356-0012A
Orifice for 2-stage cooler	609-004A

P

Description	Section
Pump cover V32	107-0033C
Piston	113-011A
Pressure control valve for lubricating oil	181-0005B
Prelubricating oil pump	182-009A
Piping for pneumatic overspeed trip device	228-024A
Pressure valve	350-085A
Pressure valve	350-088A

Pressure control valve	356-0011A
Pressure sensor for crankcase	507-0095B
Pressure difference indicator	507-020B
Pressure sensors	507-136B

R

Description	Section
Rocker arms and bearing bracket	143-002C
Regulating mechanism V32, B-bank	224-0008D
Regulating mechanism V32, A-bank	224-007C
Running-in filter	471-0006C

S

Description	Section
Suction pipe with screen case	100-010B
Side covers	107-0041A
Side covers	107-025B
Side cover	107-031A
Side cover	107-032A
Starting valve	123-001B
Speed pickup	156-072B
Starting air distributor	211-001B
Stop lever and covers	213-003B
Starting blocking device	214-002A
Spring loaded rod	224-015A
Speed pick-ups	231-010A
Speed pick-ups	231-012A
Starting air system V32	357-015B
Shield for fuel and lubricating oil pipes	482-007B
Shields for lube oil pipes	482-008A
Shield for lubricating oil pipes	482-009A

T

Description	Section
Turbocharger	156-071G
Thermostatic valve for lubricating oil	183-002B

Thermostatic valve for LT water	196-009B
Two-part ring for exhaust manifold	200-032A
Turning device	483-0006C
Temperature sensors for main bearings	506-0078A
Temperature transmitter	507-0034F
Temperature sensor for exhaust gas	507-043A
Throttle valve	507-129A
Thermometers	511-004C

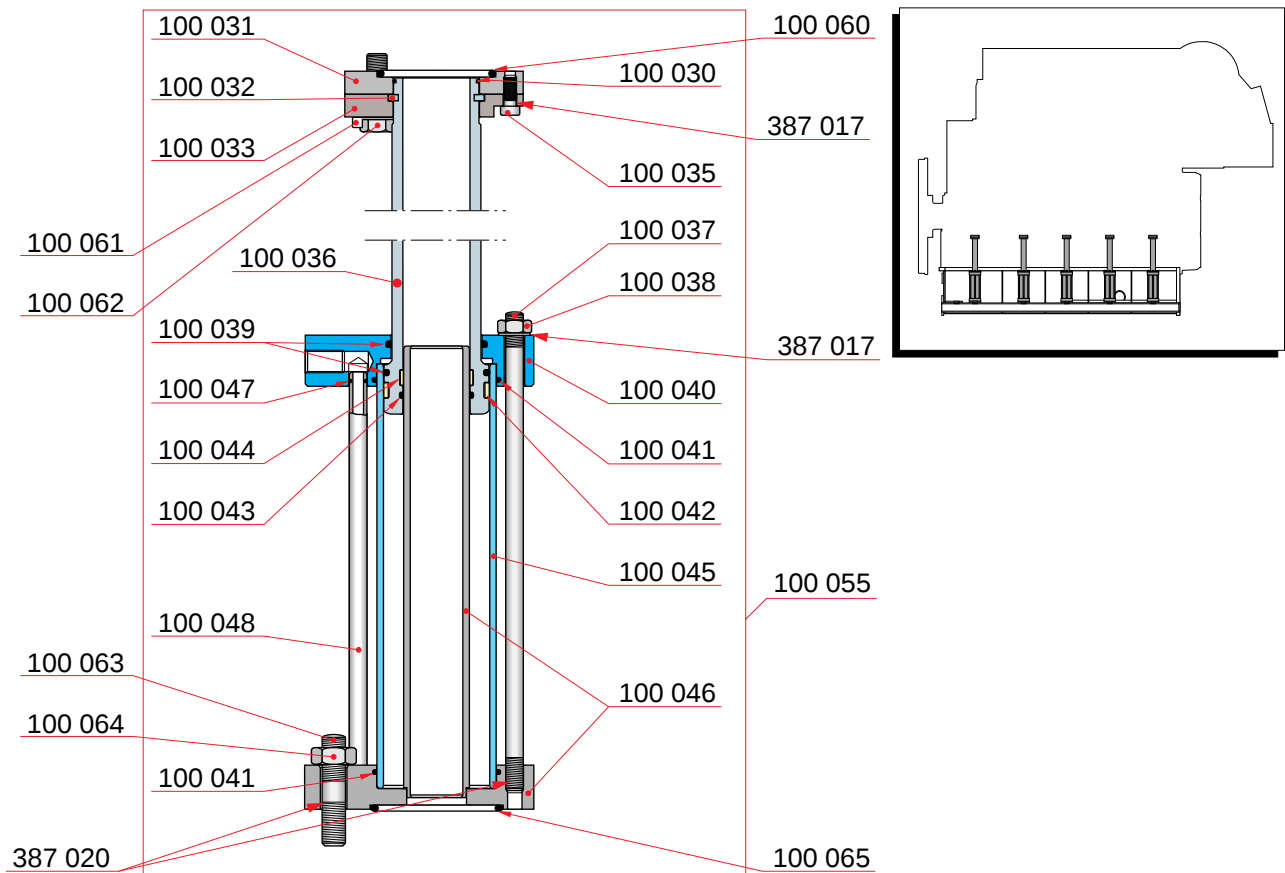
V

Description	Section
Valve tappet with guide block	145-002C
Ventilation pipes for Hot-box	378-006A

W

Description	Section
Water pump	191-007H
Water outlet valve	214-003A

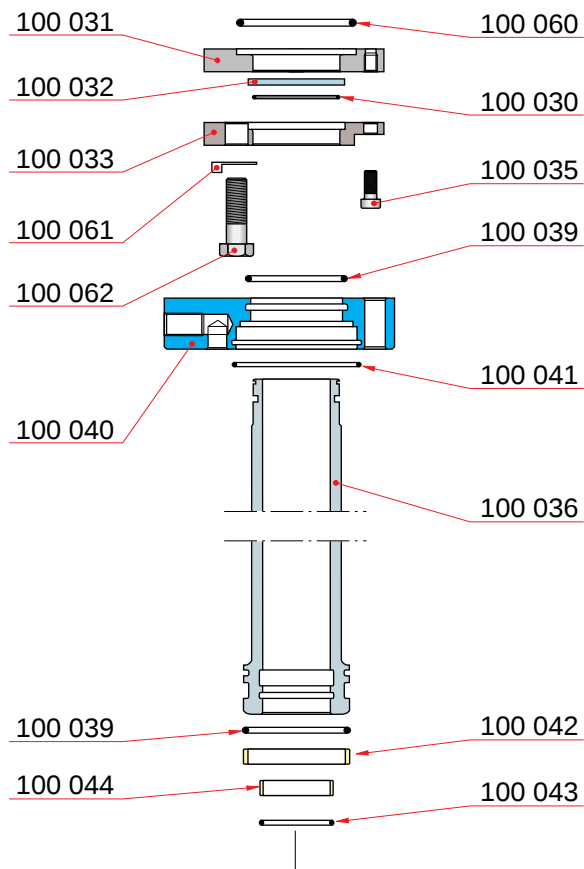
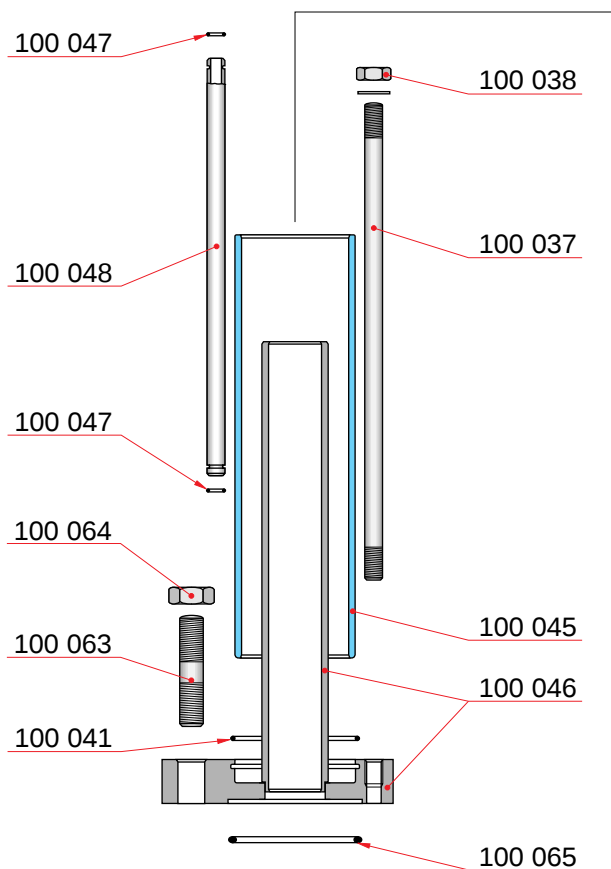
Hydraulic jack for main bearing cap



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 055	Hydraulic jack for main bearing cap	*	-	100 064	Nut	*	-
				100 065	O-ring	*	-
100 030	O-ring		-	387 017	Glue compound	1	-
100 031	Flange		-	387 020	Glue compound	1	-
100 032	Retainer ring		-				
100 033	Flange		-				
100 035	Screw		-	NOTE!	*) See table(s) at the end of this section.		
100 036	Piston		-				
100 037	Screw		-				
100 038	Nut		-				
100 039	O-ring		-				
100 040	Flange		-				
100 041	O-ring		-				
100 042	Slide ring		-				
100 043	O-ring		-				
100 044	Slide ring		-				
100 045	Cylinder		-				
100 046	Pipe		-				
100 047	O-ring		-				
100 048	Pipe		-				
100 050	Sealing set		-				
100 060	O-ring	*	-				
100 061	Tab washer	*	-				
100 062	Screw	*	-				
100 063	Screw	*	-				

Edition: B
 Page: 2(4)
 Updated: 02.03.2004

Hydraulic jack for main bearing cap

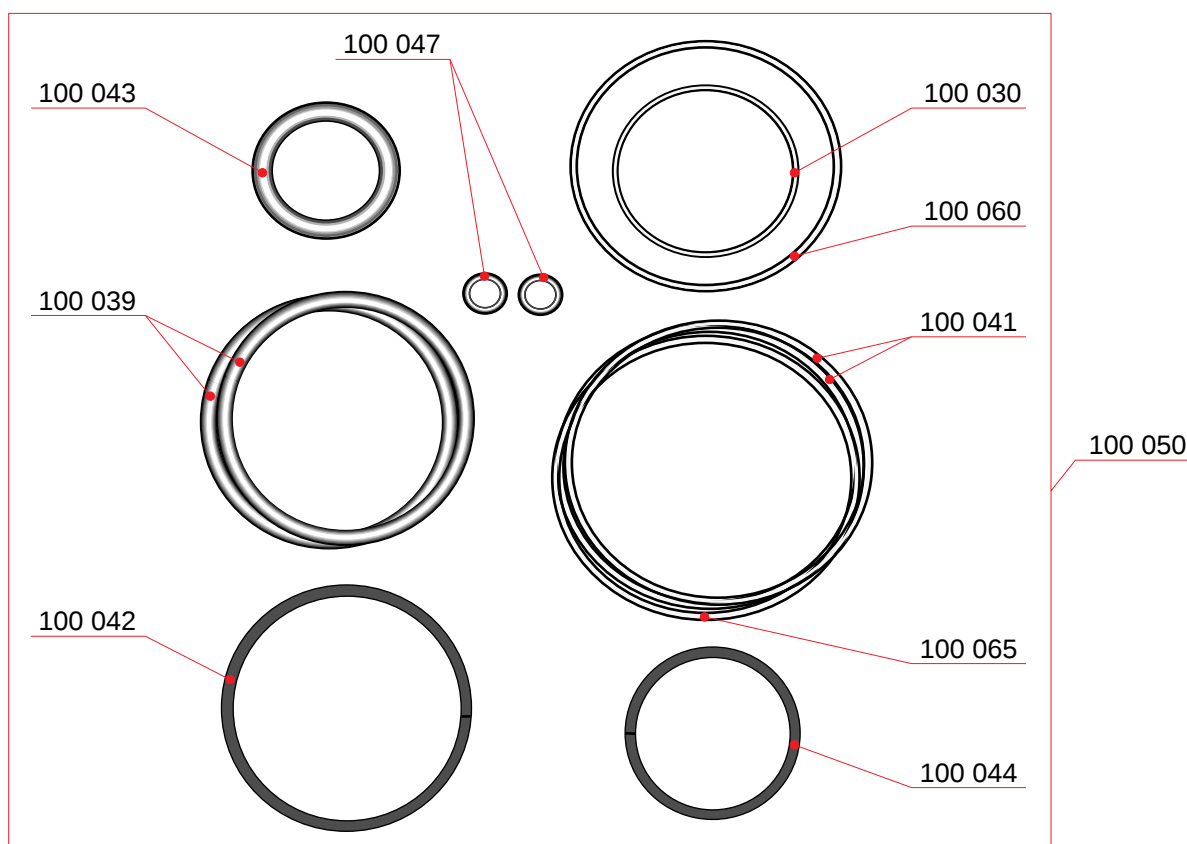


Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 030	O-ring	-	-
100 031	Flange	-	-
100 032	Retainer ring	-	-
100 033	Flange	-	-
100 035	Screw	-	-
100 036	Piston	-	-
100 037	Screw	-	-
100 038	Nut	-	-
100 039	O-ring	-	-
100 040	Flange	-	-
100 041	O-ring	-	-
100 042	Slide ring	-	-
100 043	O-ring	-	-
100 044	Slide ring	-	-
100 045	Cylinder	-	-
100 046	Pipe	-	-
100 047	O-ring	-	-
100 048	Pipe	-	-
100 060	O-ring	*	-
100 061	Tab washer	*	-
100 062	Screw	*	-
100 063	Screw	*	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 064	Nut	*	-
100 065	O-ring	*	-

NOTE! *) See table(s) at the end of this section.

Hydraulic jack for main bearing cap



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 050	Sealing set	-	-				
100 030	O-ring	-	-				
100 039	O-ring	-	-				
100 041	O-ring	-	-				
100 042	Slide ring	-	-				
100 043	O-ring	-	-				
100 044	Slide ring	-	-				
100 047	O-ring	-	-				
100 060	O-ring	-	-				
100 065	O-ring	-	-				

Edition: B

Page: 4(4)

Updated: 02.03.2004

Hydraulic jack for main bearing cap

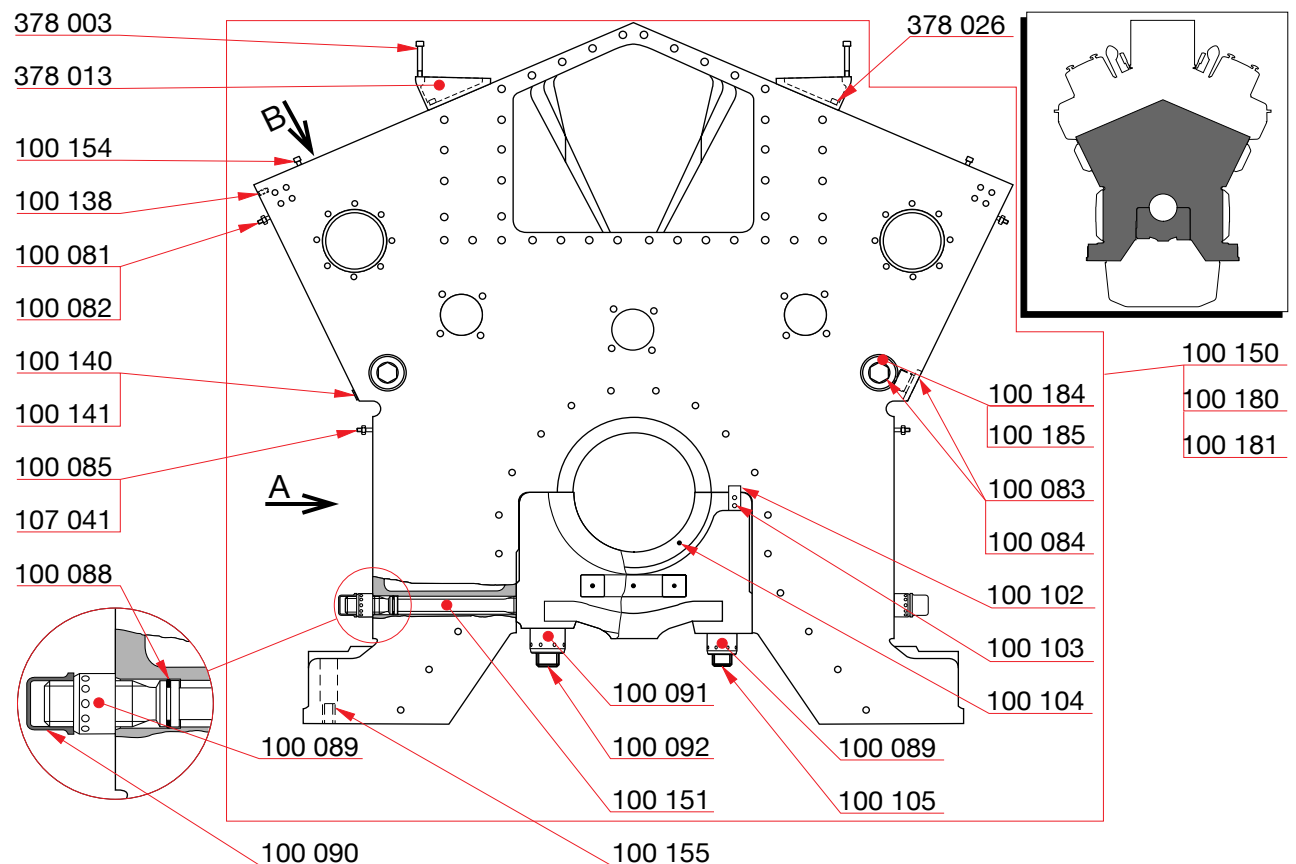
Quantity according to number of cylinders

Part No	Pieces						
	4R32	6R32	8R32	9R32	12V32	16V32	18V32
100 055	6	8	10	11	8	10	11
100 060	5	7	9	10	7	9	10
100 061	24	32	40	44	32	40	44
100 062	24	32	40	44	32	40	44
100 063	24	32	40	44	32	40	44
100 064	24	32	40	44	32	40	44
100 065	5	7	9	10	7	9	10

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Engine block and cylinder liner V32

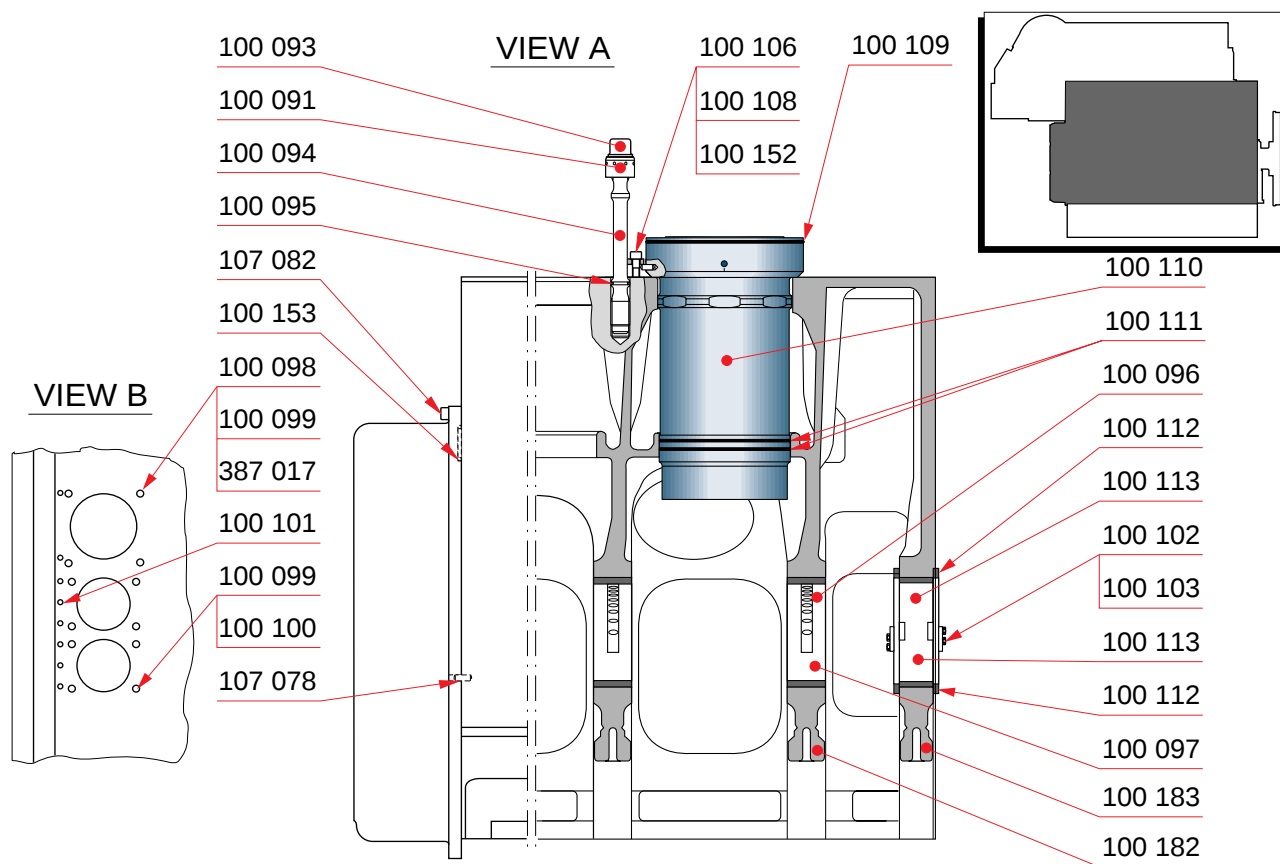


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 150	Engine block	*	-	100 185	Sealing ring	2	-
100 180	Engine block	*	-	107 041	Nut	*	-
100 181	Engine block	*	-	378 003	Screw	8	-
100 083	Plug	*	-	378 013	Distance piece	2	-
100 084	Sealing ring	*	-	378 026	Screw	8	-
100 089	Nut	*	-				
100 091	Nut	*	-	NOTE!	* See page 3		
100 092	Main bearing screw	*	-				
100 102	Guiding washer	4	-				
100 103	Screw	8	-				
100 104	Pin	4	-				
100 105	Screw	2	-				
100 151	Side screw	*	-				
100 081	Screw	*	-				
100 082	Nut	*	-				
100 085	Screw	*	-				
100 088	O-ring	*	-				
100 090	Cover	*	-				
100 138	Plug	*	-				
100 140	Plug	2	-				
100 141	Sealing ring	2	-				
100 154	Screw	12	-				
100 155	Thread element	*	-				
100 184	Plug	2	-				

Edition: D

Page: 2(3)

Updated: 09.09.2003

Engine block and cylinder liner V32

Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 091	Nut	*	-	100 183	Cap	1	-
100 093	Cover	*	-	107 078	Pin	2	-
100 094	Cylinder head screw	*	-	107 082	Screw	42	-
100 095	O-ring	*	-	387 017	Glue compound	1	-
100 096	Main bearing shell, upper	*	-	NOTE!	* See page 3		
100 097	Main bearing shell, lower	*	-				
100 098	Screw	*	-				
100 099	Nut	*	-				
100 100	Screw	*	-				
100 101	Spring pin	*	-				
100 102	Guiding washer	4	-				
100 103	Screw	8	-				
100 106	Screw	*	-				
100 108	Pin	*	-				
100 109	O-ring	*	-				
100 110	Cylinder liner	*	-				
100 111	O-ring	*	-				
100 112	Thrust washer	4	-				
100 113	Flywheel bearing shell	2	-				
100 152	Clamp	*	-				
100 153	O-ring	2	-				
100 182	Cap	*	-				

Engine block and cylinder liner V32

Quantity according to number of cylinders

Part No	Pieces			Part No	Pieces		
	12V32	16V32	18V32		12V32	16V32	18V32
100 081	64	72	88	100 100	96	128	144
100 082	208	264	304	100 101	72	96	106
100 083	20	24	26	100 106	6	8	10
100 084	20	24	26	100 108	14	18	20
100 085	48	64	72	100 109	16	20	22
100 088	16	20	22	100 110	12	16	18
100 089	18	22	24	100 111	24	32	36
100 090	16	20	22	100 138	24	32	36
100 091 a)	14	18	20	100 150	1	-	-
100 091 b)	48	64	72	100 151	16	20	22
100 092	14	18	20	100 152	6	8	10
100 093	48	64	72	100 155	8	10	10
100 094	48	64	72	100 180	-	1	-
100 095	48	64	72	100 181	-	-	1
100 096	7	9	10	100 182	7	9	10
100 097	7	9	10	107 041	48	64	72
100 098	48	64	72				
100 099	48	64	72				

a) for main bearing

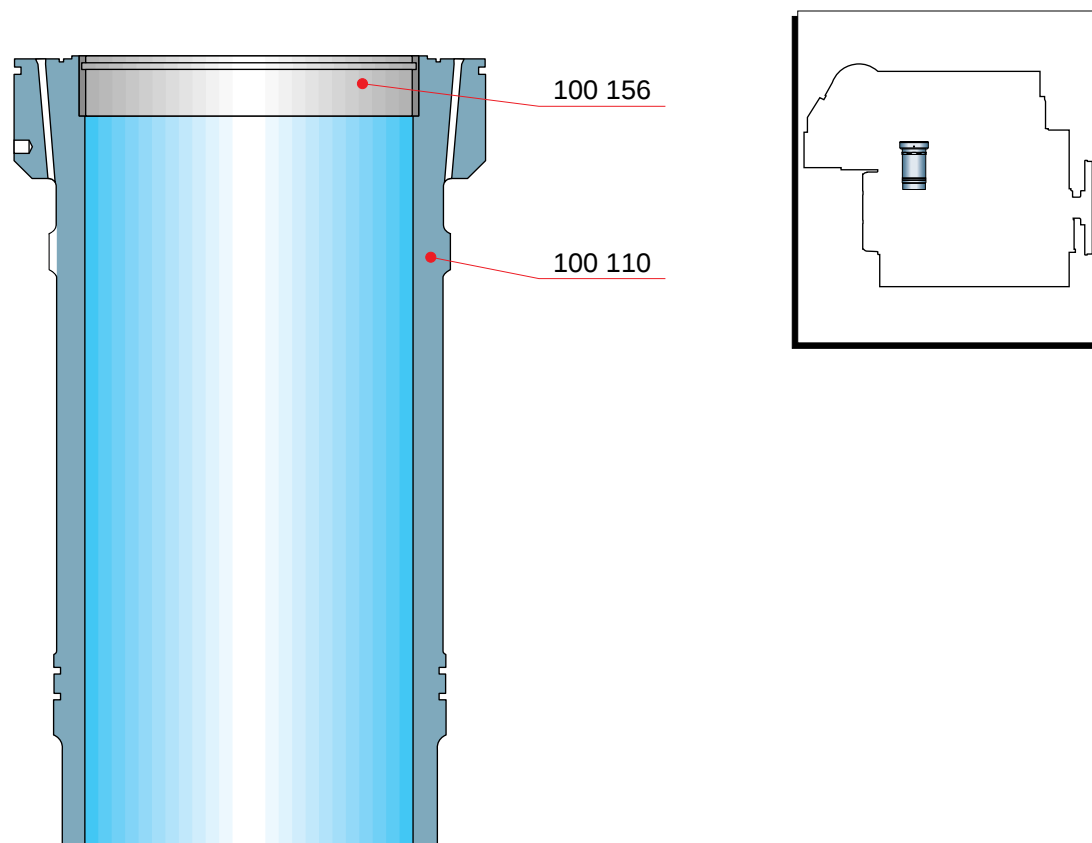
b) for cylinder head

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Cylinder liner with anti-polishing ring

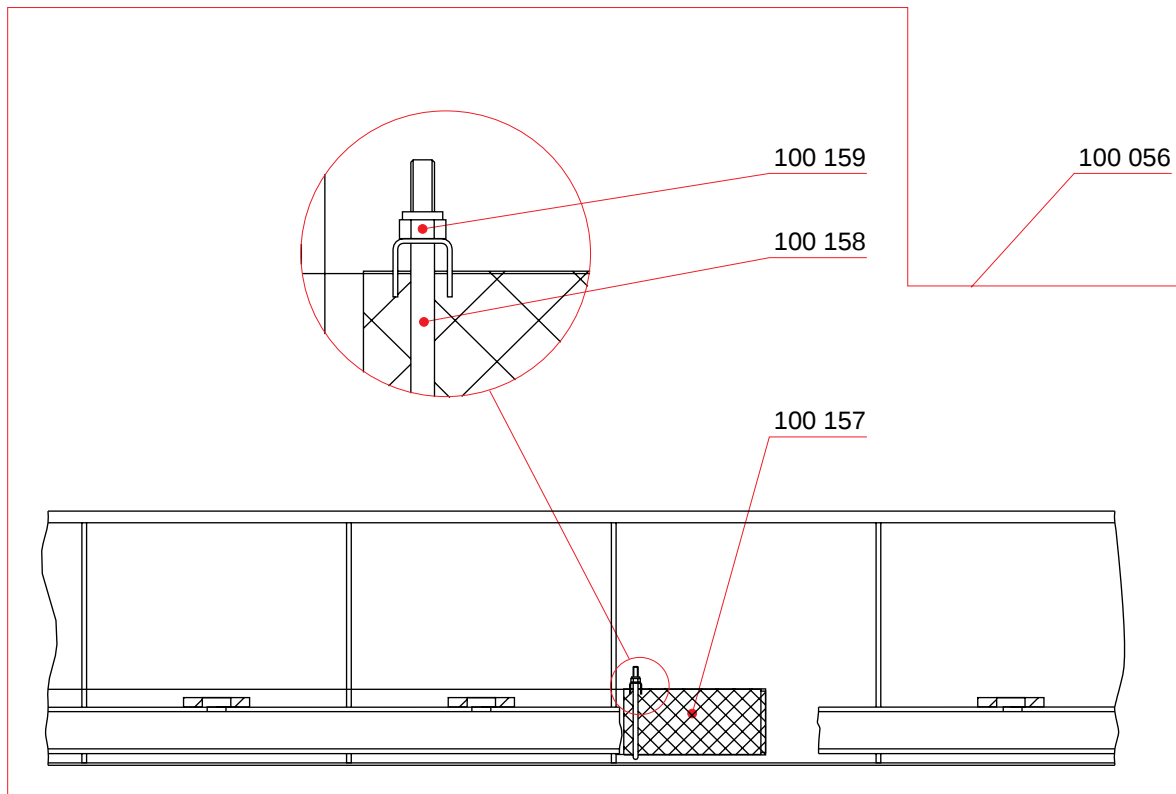


Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 110	Cylinder liner	1	160
100 156	Anti-polishing ring	1	3.7

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Suction pipe with screen case

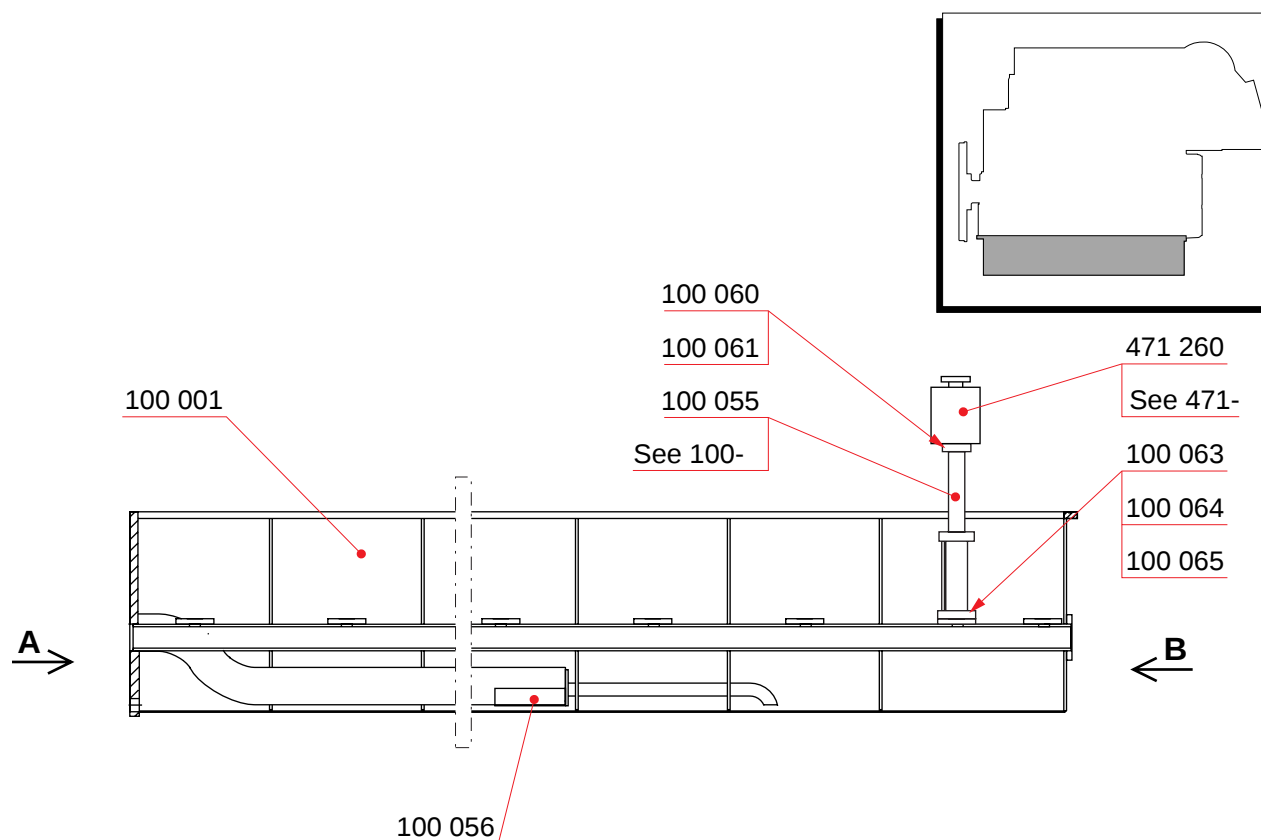


Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 056	Cover, complete	1	1.1
100 157	Cover	1	0.6
100 158	Clamp	1	0.4
100 159	Nut	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Oil sump

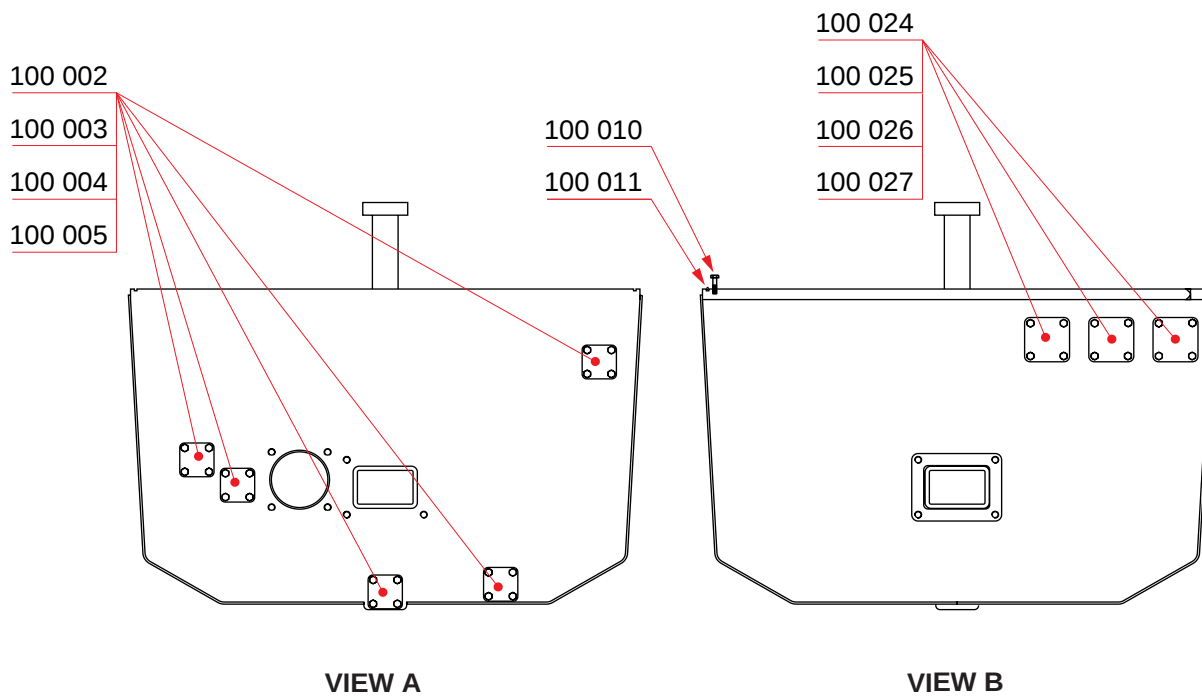


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 001	Oil sump	1	-				
100 055	Hydraulic jack for main bearing cap	*	12.5				
100 056	Cover, complete	1	1.1				
100 060	O-ring	*	-				
100 061	Tab washer	*	-				
100 063	Screw	*	-				
100 064	Nut	*	-				
100 065	O-ring	*	-				
471 260	Running-in filter	*	15.5				

NOTE! * See page 3

Edition: B
 Page: 2(3)
 Updated: 10.05.2001

Oil sump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 002	Flange	5	0.6				
100 003	O-ring	5	-				
100 004	Screw	20	-				
100 005	Securing plate	20	-				
100 010	Screw	*	-				
100 011	Gasket	*	-				
100 024	Flange	3	1.3				
100 025	O-ring	3	-				
100 026	Screw	12	-				
100 027	Securing plate	12	-				

NOTE! * See page 3

Oil sump

Quantity according to number of cylinders

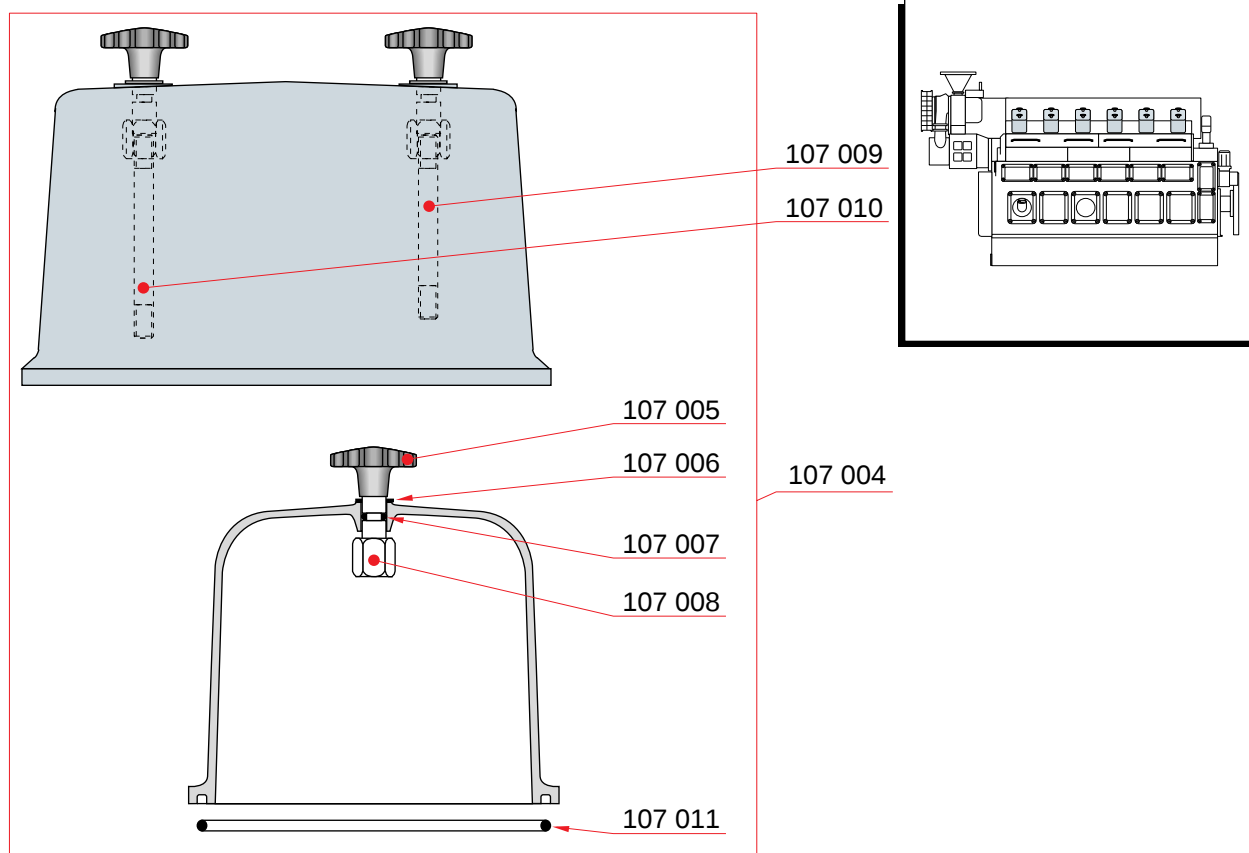
Part No	Pieces		
	12V32	16V32	18V32
100 010	70	86	94
100 011	9.25m	11.46m	12.65m
100 055	8	10	11
100 060	7	9	10
100 061	14	16	20
100 063	32	36	44
100 064	32	36	44
100 065	7	9	10
471 260	7	9	10

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

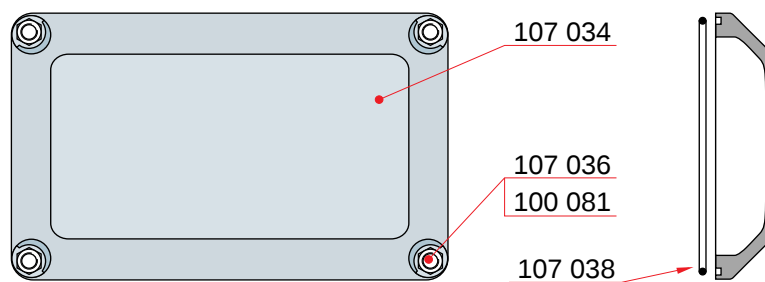
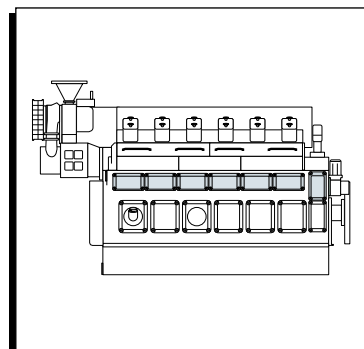
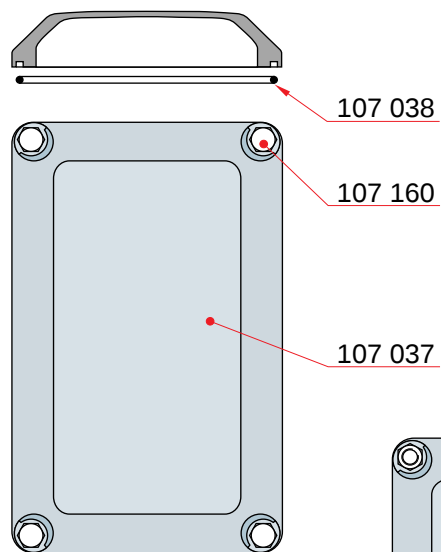
Casings and covers V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 004	Casing for cylinder head	1	-				
107 005	Hand wheel	2	-				
107 006	Washer	2	-				
107 007	O-ring	2	-				
107 008	Hand wheel pin	2	-				
107 011	Gasket	1	-				
107 009	Screw	1	-				
107 010	Screw	1	-				

Edition: D
 Page: 2(7)
 Updated: 04.04.2003

Casings and covers V32

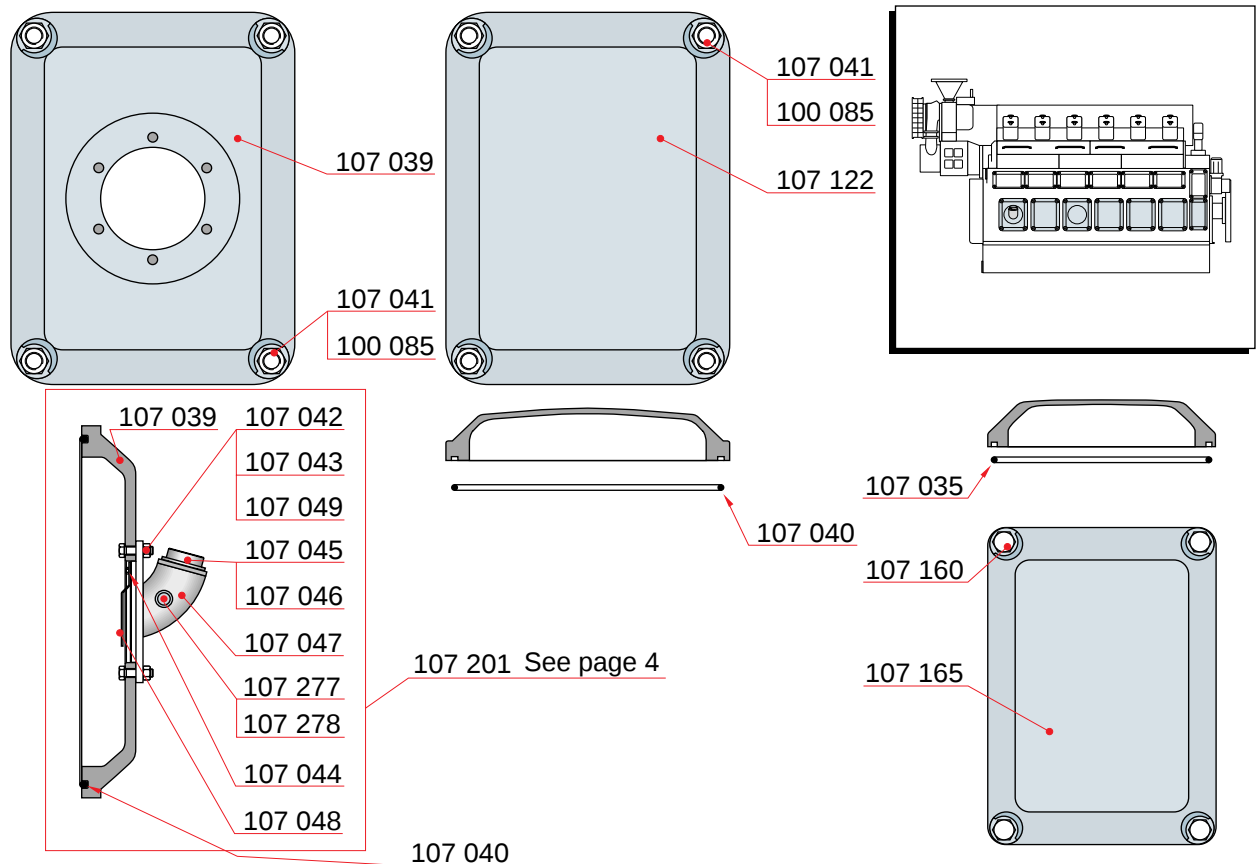


Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 081	Screw	*	-
107 034	Cover	*	-
107 036	Nut	*	-
107 037	Gear cover for camshaft	2	-
107 038	Gasket	*	-
107 160	Screw	16	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

NOTE! * See page 5

Casings and covers V32



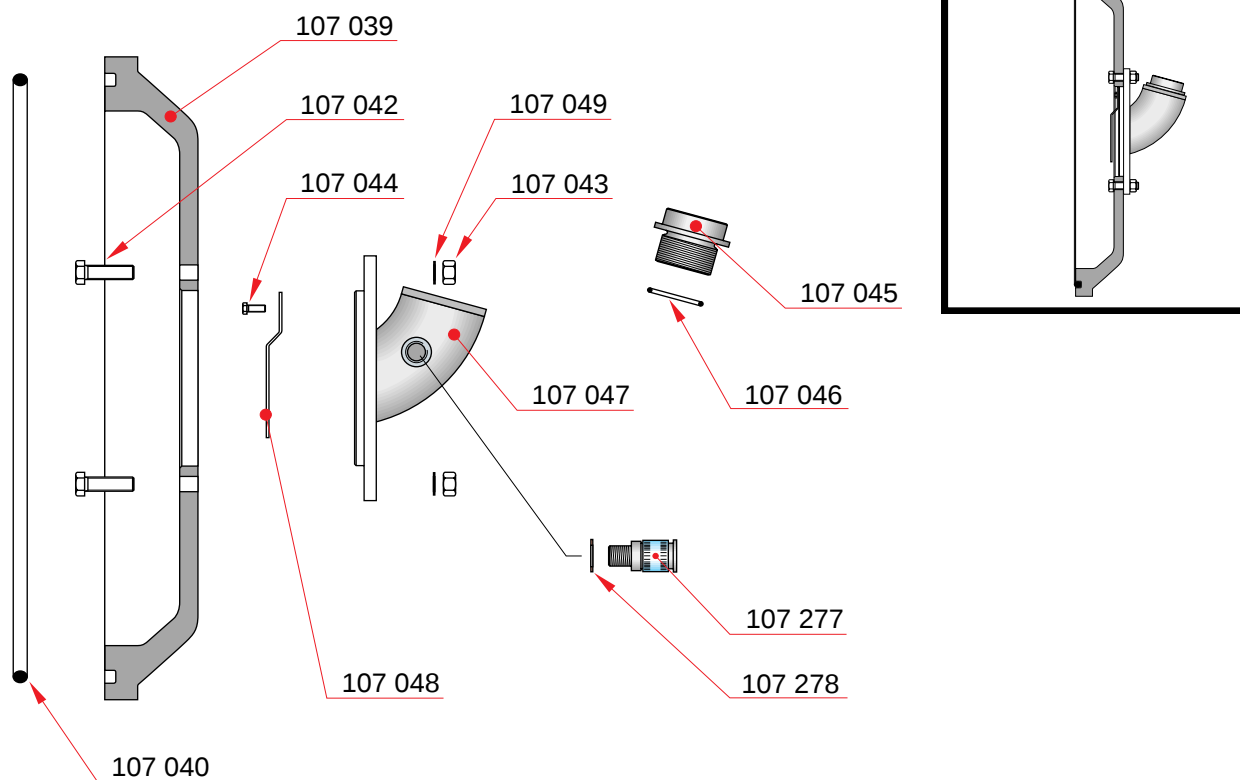
Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 085	Screw	*	-
107 035	Gasket	2	-
107 040	Gasket	*	-
107 041	Nut	*	-
107 122	Crankcase cover	*	-
107 160	Screw	16	-
107 165	Cover	2	-
107 201	Crankcase cover with oil filling opening	1	-
107 039	Crankcase cover	1	-
107 042	Screw	6	-
107 043	Nut	6	-
107 044	Screw	2	-
107 045	Plug	1	-
107 046	O-ring	1	-
107 047	Oil filling bend	1	-
107 048	Shield	1	-
107 049	Sealing ring	6	-
107 277	Quick coupling	1	-
107 278	Sealing ring	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

NOTE! * See page 5

Edition: D
 Page: 4(7)
 Updated: 04.04.2003

Casings and covers V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 039	Crankcase cover	1	-				
107 040	Gasket	*	-				
107 042	Screw	6	-				
107 043	Nut	6	-				
107 044	Screw	2	-				
107 045	Plug	1	-				
107 046	O-ring	1	-				
107 047	Oil filling bend	1	-				
107 048	Shield	1	-				
107 049	Sealing ring	6	-				
107 277	Quick coupling	1	-				
107 278	Sealing ring	1	-				

Casings and covers V32

Quantity according to number of cylinders

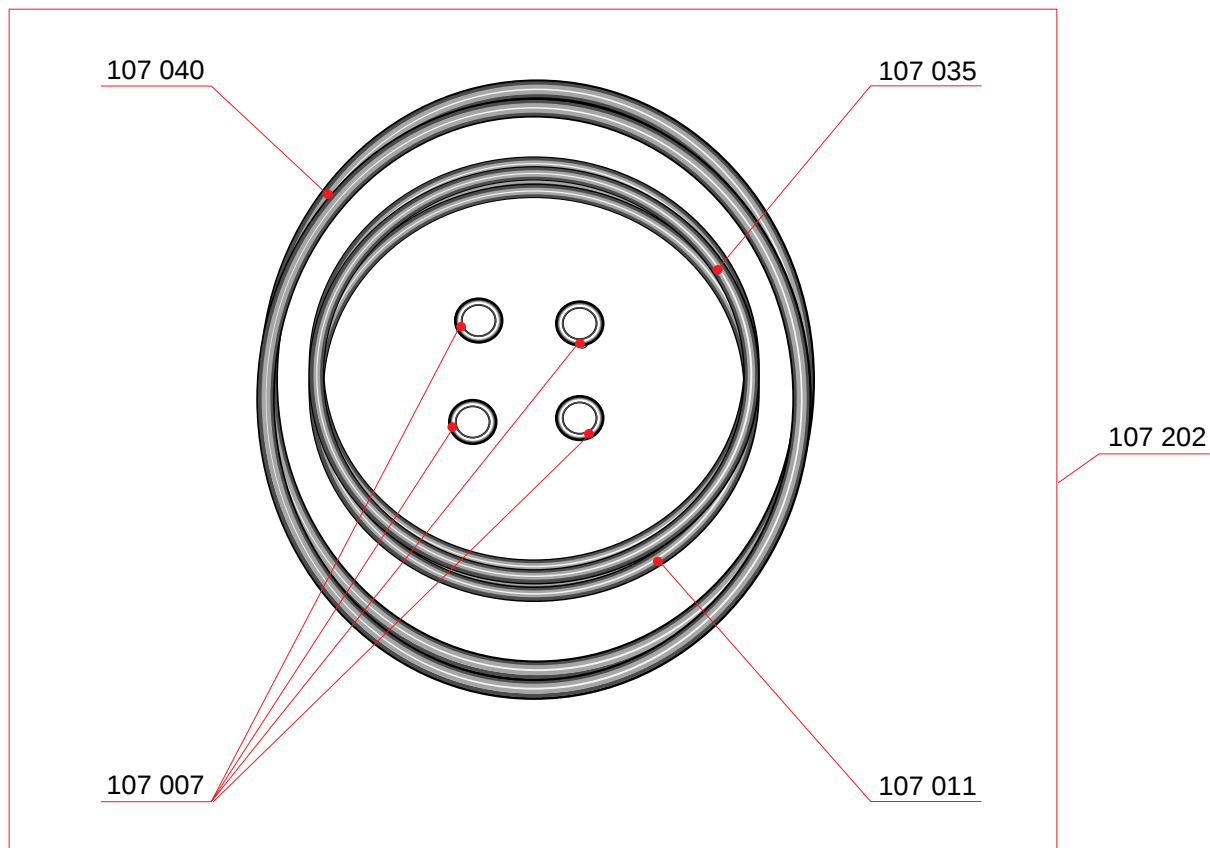
Part No	Pieces		
	12V32	16V32	18V32
100 081	64	72	88
100 085	48	64	72
107 034	12	16	18
107 036	48	64	72
107 038	14	18	20
107 040	12	16	18
107 041	48	64	72
107 122	5	7	8

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

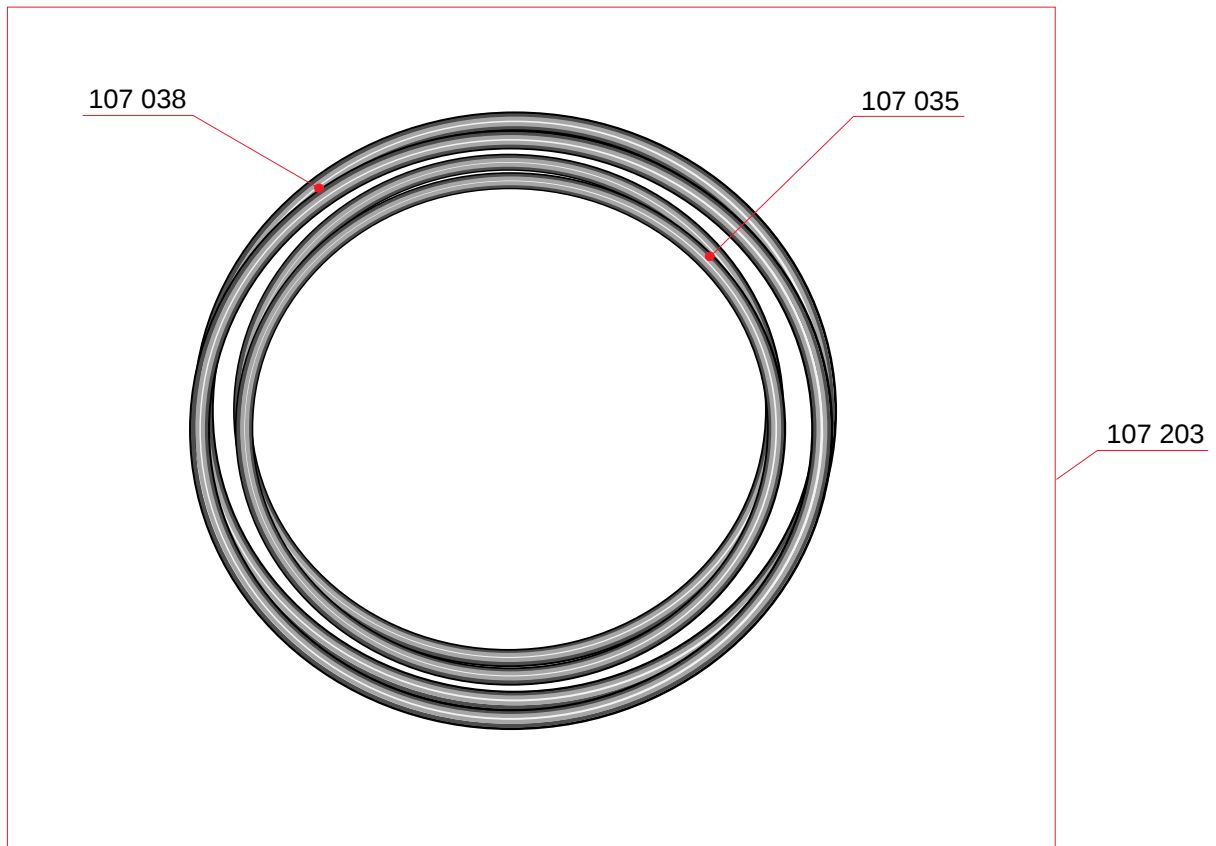
Edition: D
 Page: 6(7)
 Updated: 04.04.2003

Casings and covers V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 202	Spare part kit	1	-				
107 007	O-ring	4	-				
107 011	Gasket	2	-				
107 035	Gasket	2	-				
107 040	Gasket	2	-				

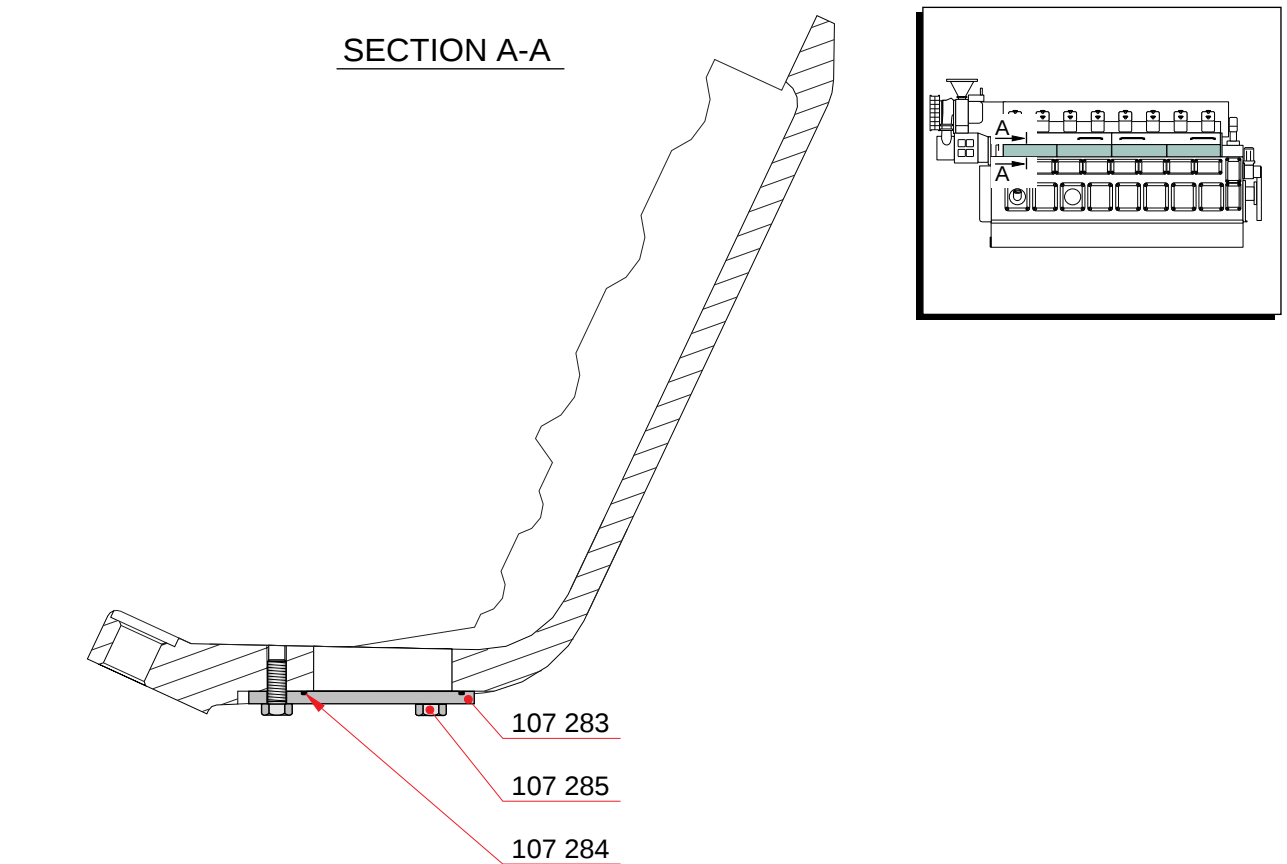
Casings and covers V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 203	Spare part kit	1	-				
107 035	Gasket	2	-				
107 038	Gasket	2	-				

This page is intentionally left blank.

Flanges for side covers



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 283	Flange	10	0.1				
107 284	O-ring	16	-				
107 285	Screw	48	-				

NOTE!

* See page 2

Edition: A
Page: 2(2)
Updated: 22.03.1996

Flanges for side covers

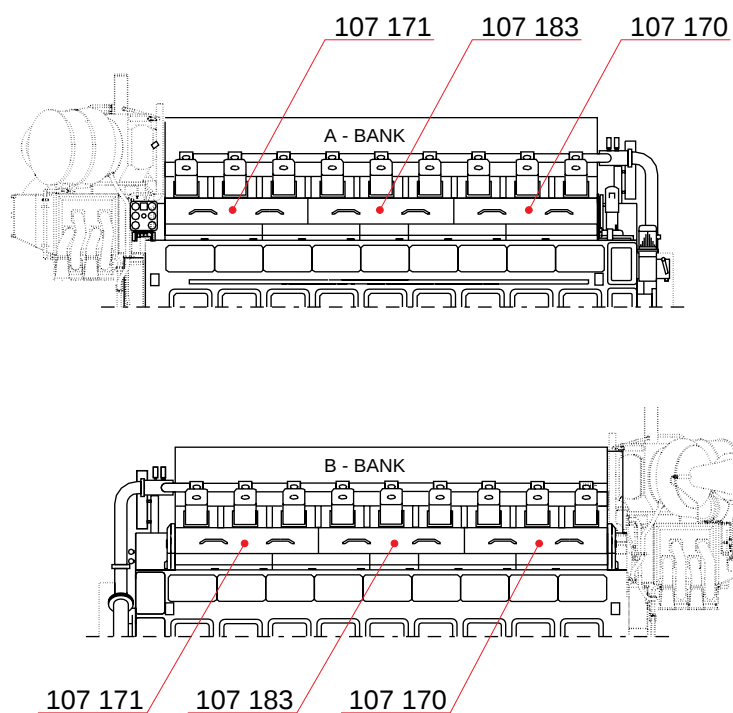
Quantity according to number of cylinders

Part No	Pieces		
	12V	16V	18V
107 283	10	14	16
107 284	10	14	16
107 285	30	42	48

Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 283	Flange	10	0.1
107 284	O-ring	16	-
107 285	Screw	48	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Side covers



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 170	Side cover	2	10.2				
107 171	Side cover	2	10.2				
107 183	Side cover, upper, middle part	*	11.0				

NOTE! * See page 2

Edition: B
Page: 2(2)
Updated: 09.05.2000

Side covers

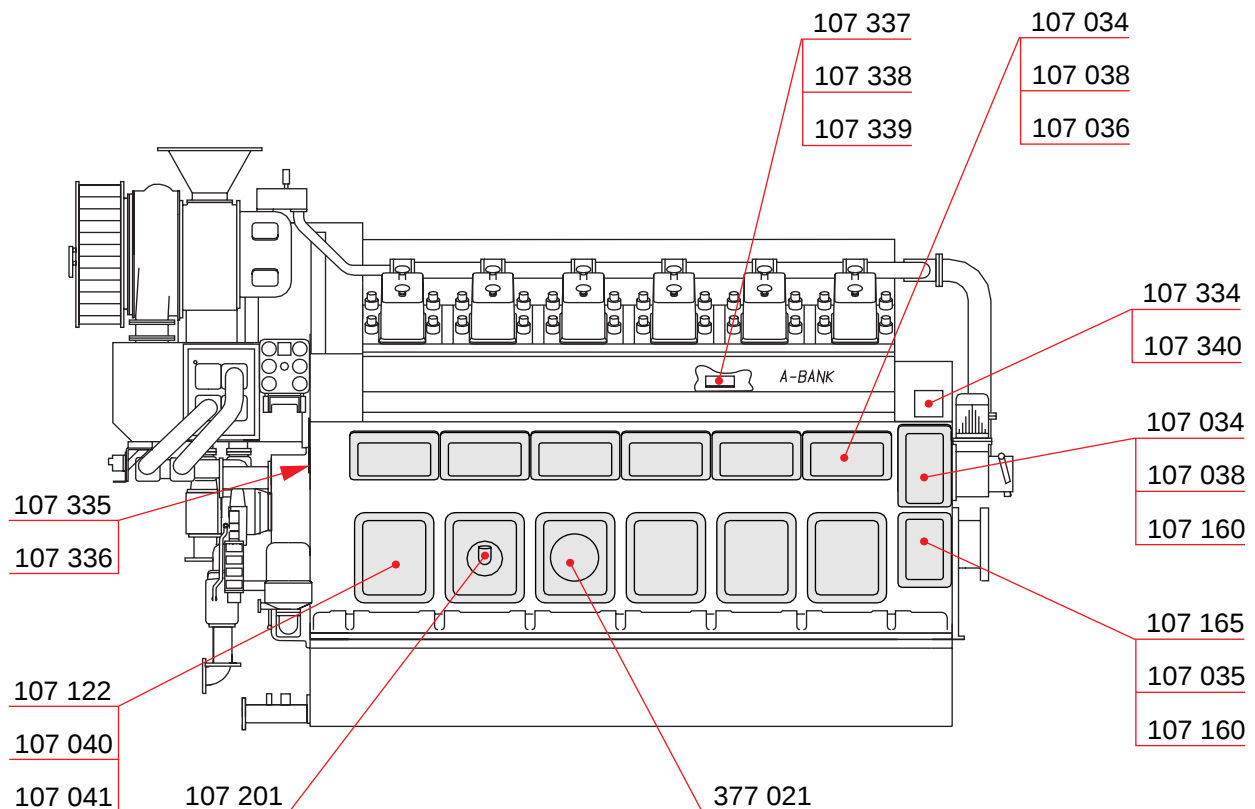
Quantity according to number of cylinders

Part No	Pieces	
	12V32	18V32
107 183	-	2

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Covers V32

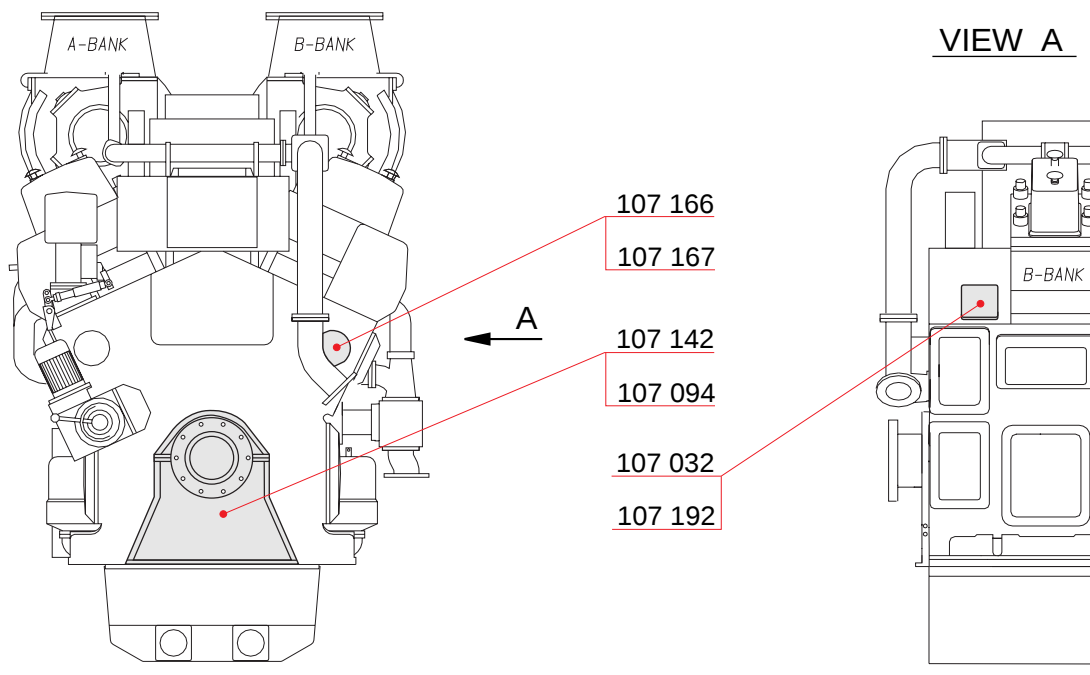


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 034	Cover	*	6.4				
107 035	Gasket	2	-				
107 036	Nut	*	-				
107 038	Gasket	*	0.1				
107 040	Gasket	*	0.1				
107 041	Nut	*	-				
107 122	Crankcase cover	*	10.7				
107 160	Screw	16	-				
107 165	Cover	2	7.2				
107 201	Crankcase cover with oil filling opening	1	4.1				
107 334	Screw	24	-				
107 335	Cover	1	-				
107 336	Screw	12	-				
107 337	Flange	*	-				
107 338	Gasket	*	-				
107 339	Screw	*	-				
107 340	Plate	1	-				
377 021	Crankcase cover with relief valve	*	17.3				

NOTE! * See page 3

Edition: D
 Page: 2(4)
 Updated: 06.11.2002

Covers V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 032	Cover	1	9.4
107 094	Screw	32	-
107 142	End cover, compl.	1	-
107 166	Cover	1	4.6
107 167	Screw	6	-
107 192	Screw	12	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Covers V32

Quantity according to number of cylinders

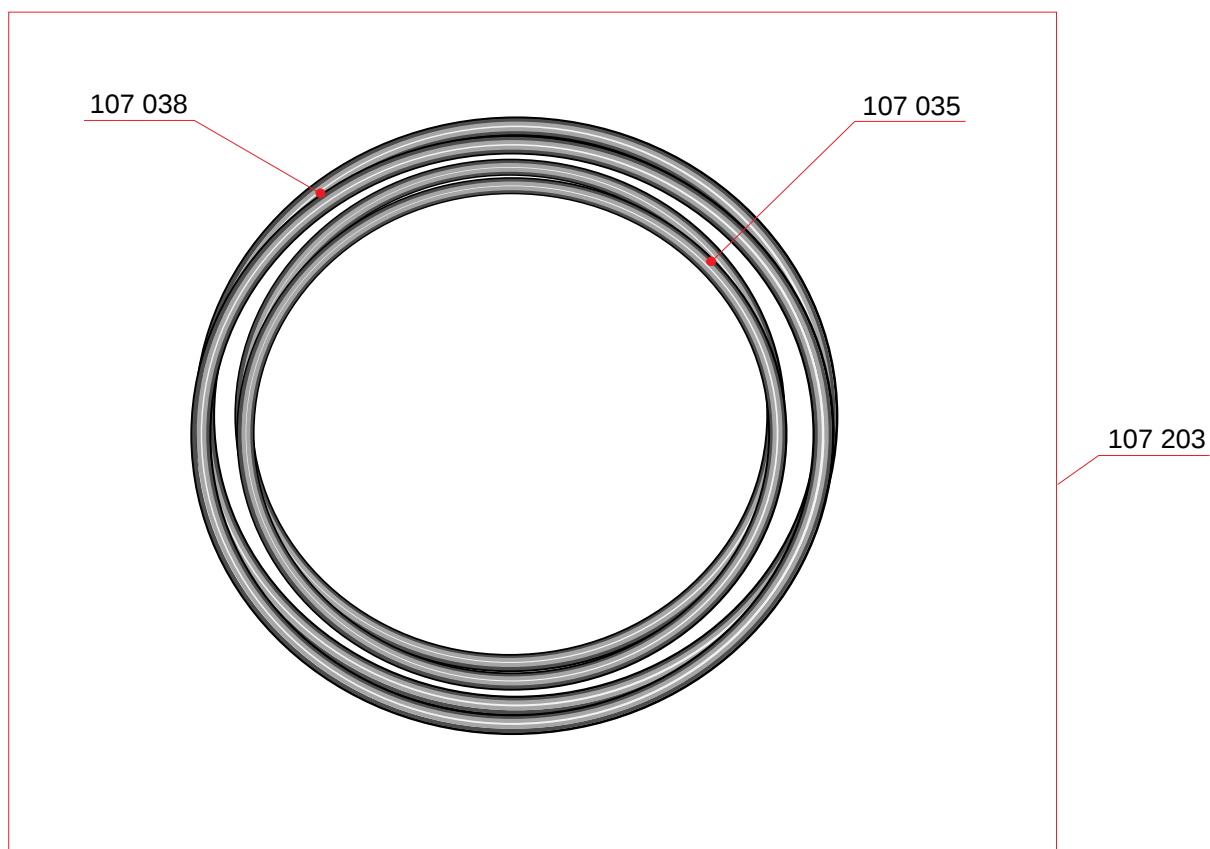
Part No	Pieces		
	12V32	16V32	18V32
107 034	14	18	20
107 036	48	64	72
107 038	14	18	20
107 040	12	16	18
107 041	48	64	72
107 122	5	7	8
107 337	12	16	18
107 338	12	16	18
107 339	48	64	72
377 021	6	8	9

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

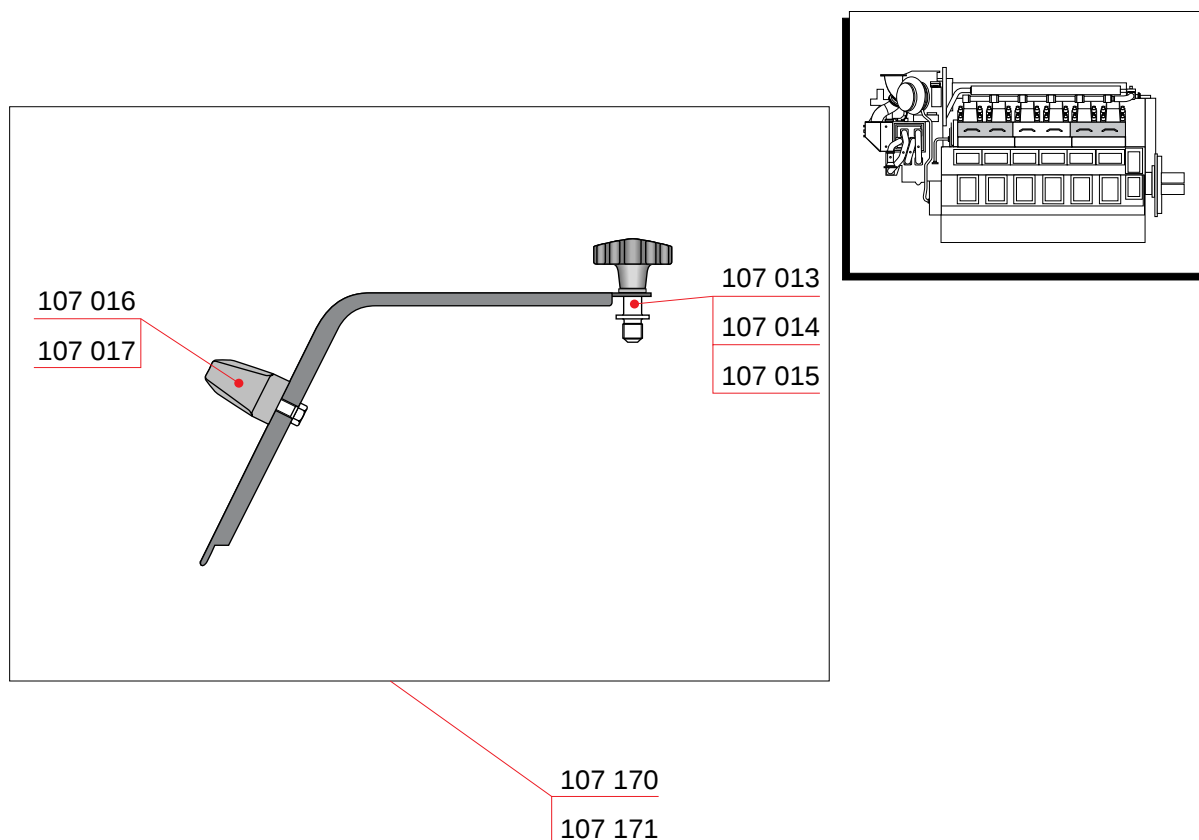
Edition: D
Page: 4(4)
Updated: 06.11.2002

Covers V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 203	Spare part kit	1	0.6				
107 035	Gasket	2	-				
107 038	Gasket	2	0.1				

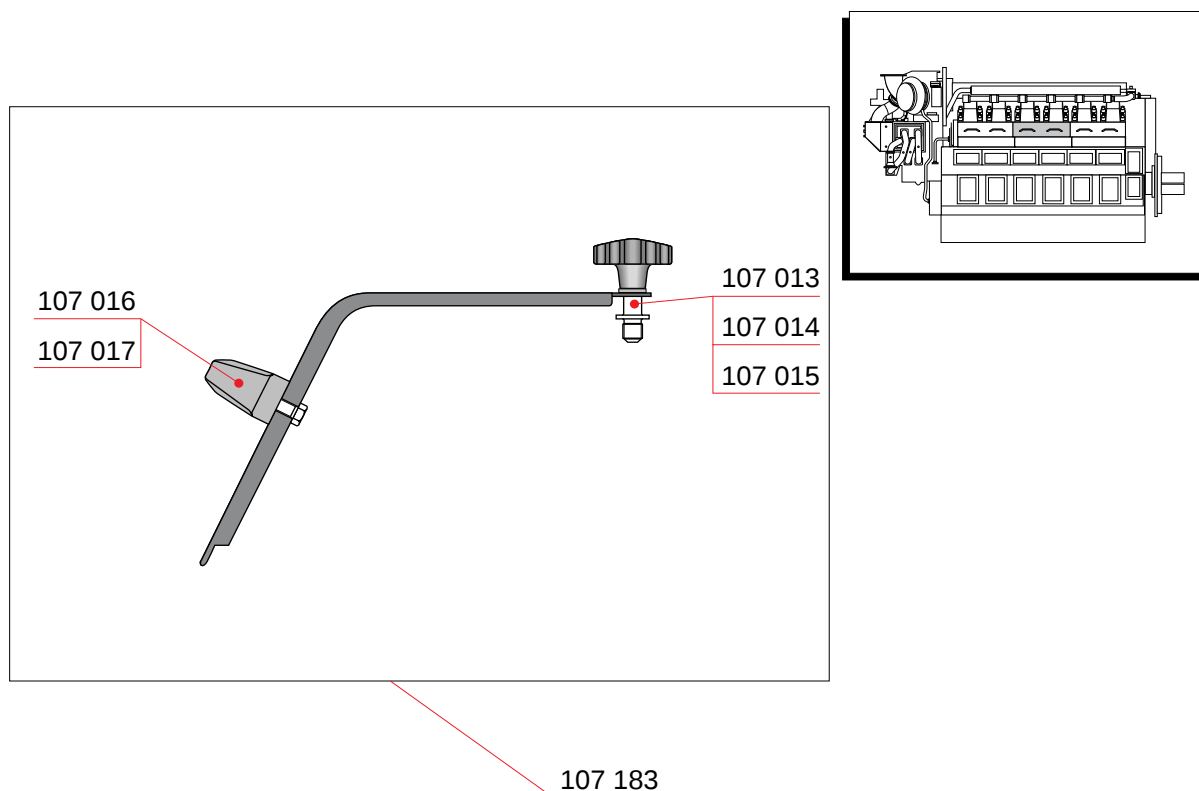
Side cover



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 170	Side cover	2	10.2				
107 013	Screw	4	-				
107 014	Washer	4	-				
107 015	Hand wheel	4	-				
107 016	Handle	2	0.5				
107 017	Screw	4	-				
107 171	Side cover	2	10.2				
107 013	Screw	4	-				
107 014	Washer	4	-				
107 015	Hand wheel	4	-				
107 016	Handle	2	0.5				
107 017	Screw	4	-				

This page is intentionally left blank.

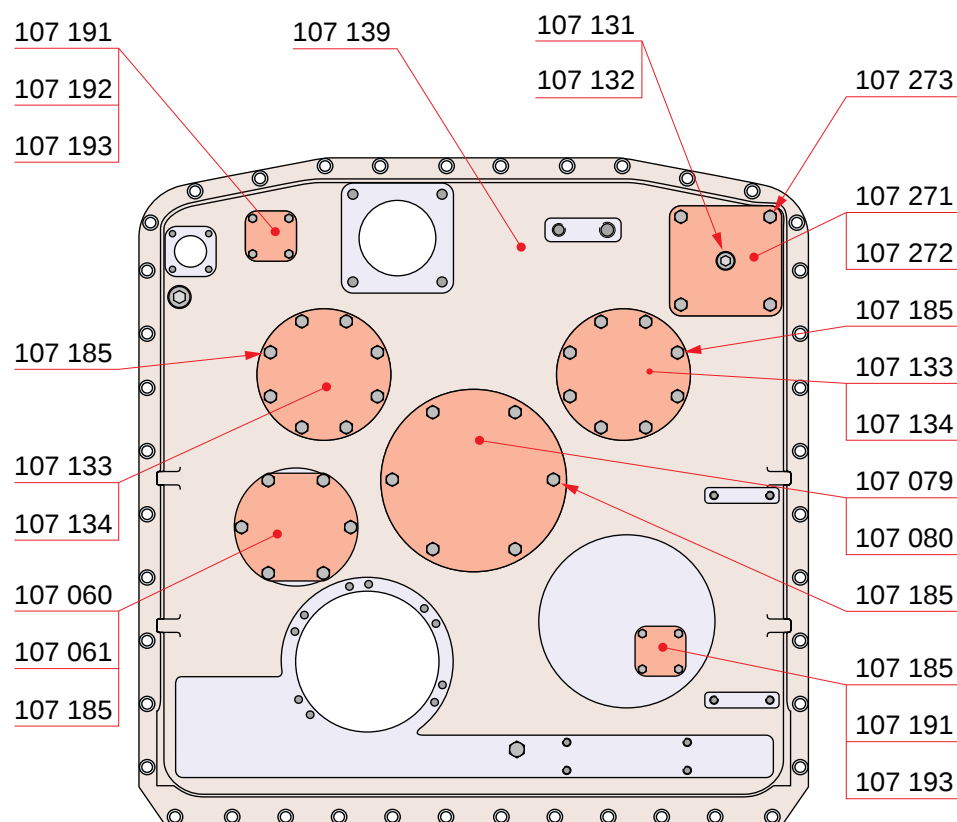
Side cover



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 183	Side cover, upper, middle part	2	11.0				
107 013	Screw	4	-				
107 014	Washer	4	-				
107 015	Hand wheel	4	-				
107 016	Handle	2	0.5				
107 017	Screw	4	-				

This page is intentionally left blank.

Pump cover V32

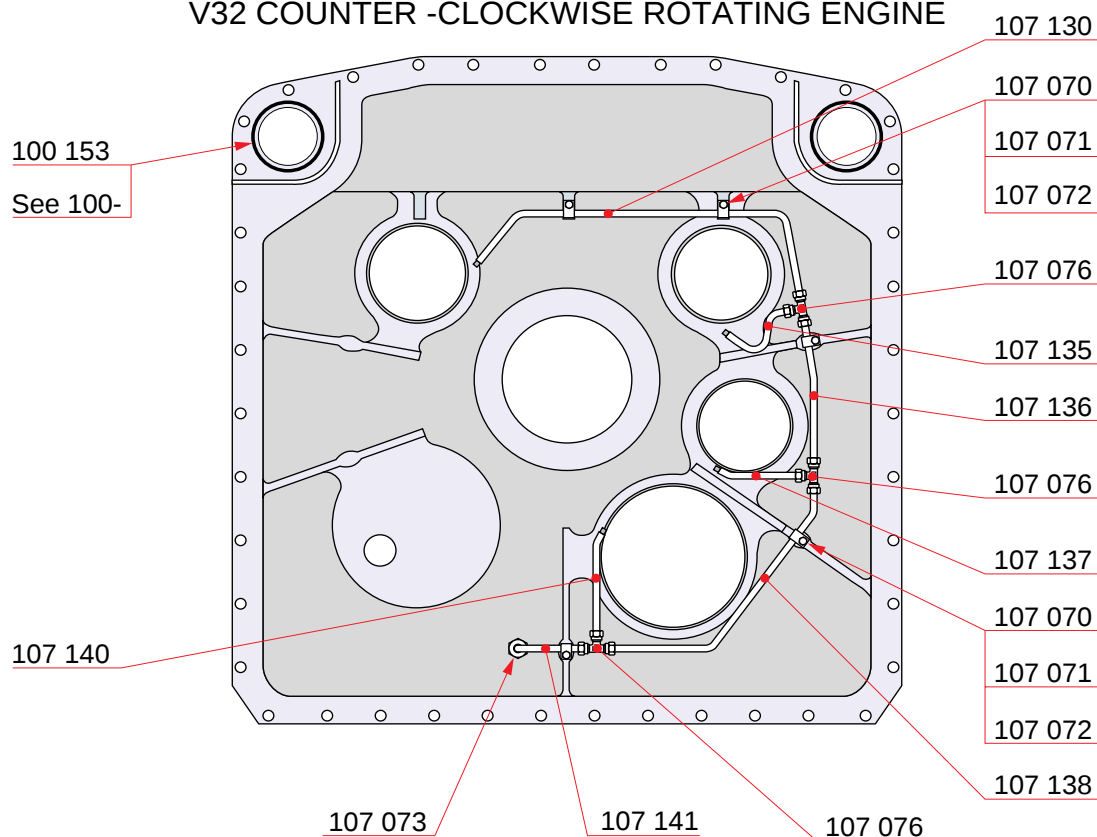


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 060	Cover	1	3.5				
107 061	Gasket	1	-				
107 079	Cover	1	8.7				
107 080	Gasket	1	-				
107 131	Plug	2	-				
107 132	Sealing ring	2	-				
107 133	Cover	2	4.0				
107 134	Gasket	2	-				
107 139	Cover	1	-				
107 185	Screw	32	-				
107 191	Gasket	2	-				
107 192	Screw	4	-				
107 193	Flange	2	0.9				
107 271	Flange	2	6.8				
107 272	Gasket	2	-				
107 273	Screw	8	-				

Edition: C
 Page: 2(5)
 Updated: 16.06.2004

Pump cover V32

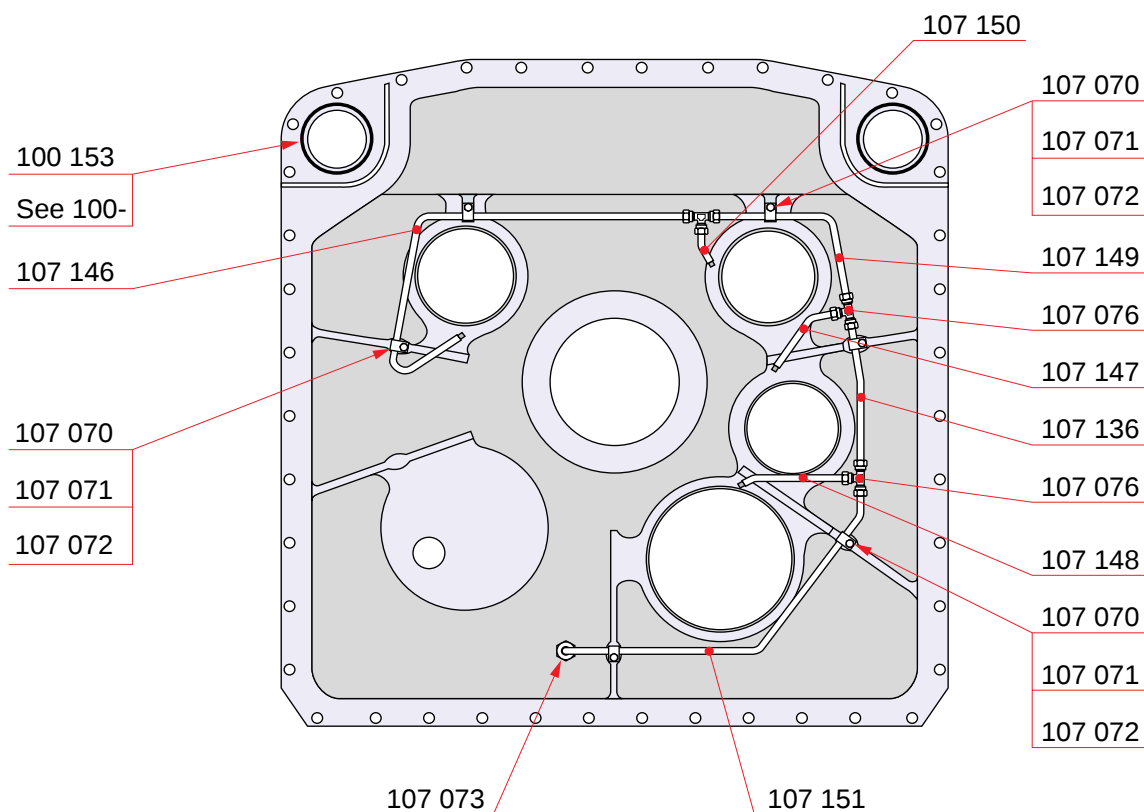
V32 COUNTER -CLOCKWISE ROTATING ENGINE



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 153	O-ring	2	-				
107 070	Tube clamp	7	-				
107 071	Screw	7	-				
107 072	Tab washer	7	-				
107 073	Pipe union	1	-				
107 076	Pipe union	3	0.1				
107 130	Pipe	1	-				
107 135	Pipe	1	-				
107 136	Pipe	1	-				
107 137	Pipe	1	-				
107 138	Pipe	1	-				
107 140	Pipe	1	-				
107 141	Pipe	1	-				

Pump cover V32

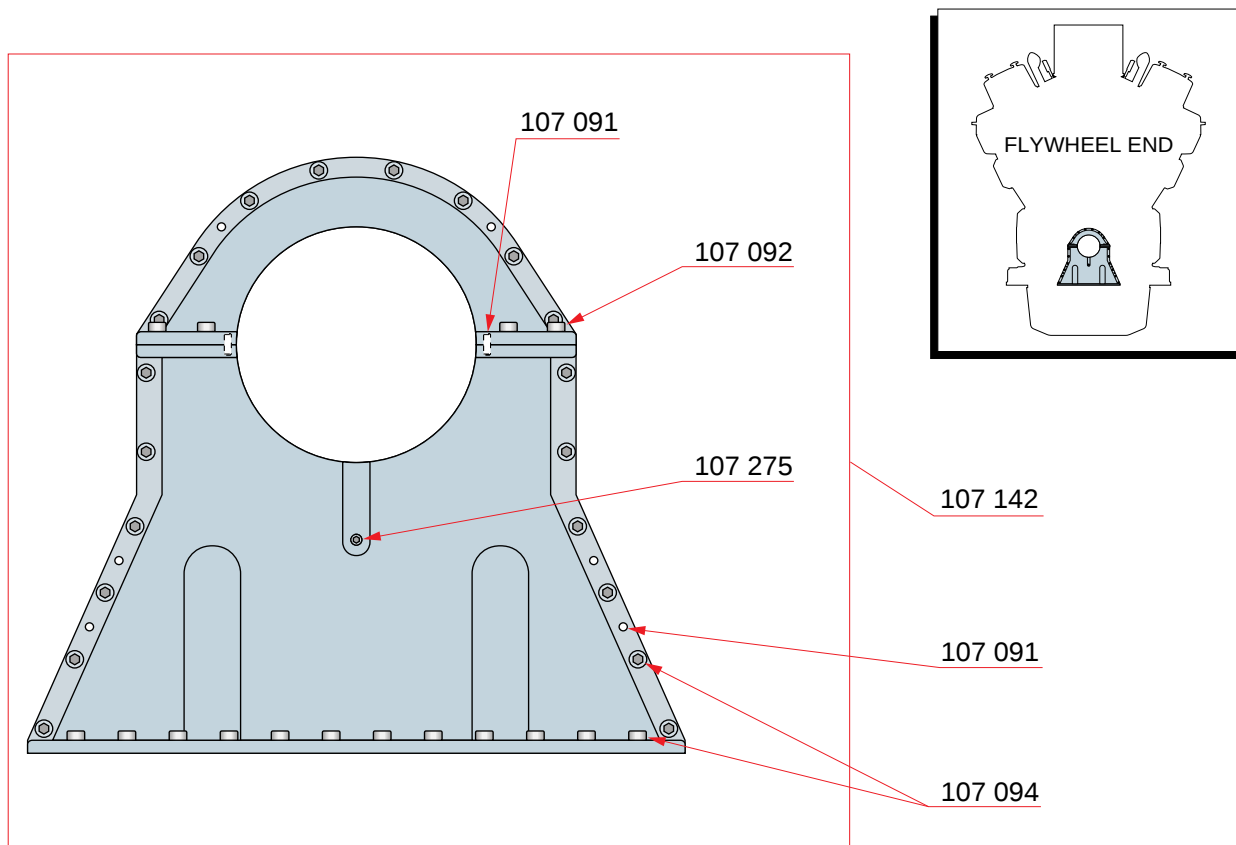
V32 CLOCKWISE ROTATING ENGINE



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 153	O-ring	2	-				
107 070	Tube clamp	7	-				
107 071	Screw	7	-				
107 072	Tab washer	7	-				
107 073	Pipe union	1	-				
107 076	Pipe union	3	0.1				
107 136	Pipe	1	-				
107 146	Pipe	1	0.2				
107 147	Pipe	1	-				
107 148	Pipe	1	-				
107 149	Pipe	1	-				
107 150	Pipe	1	-				
107 151	Pipe	1	0.1				

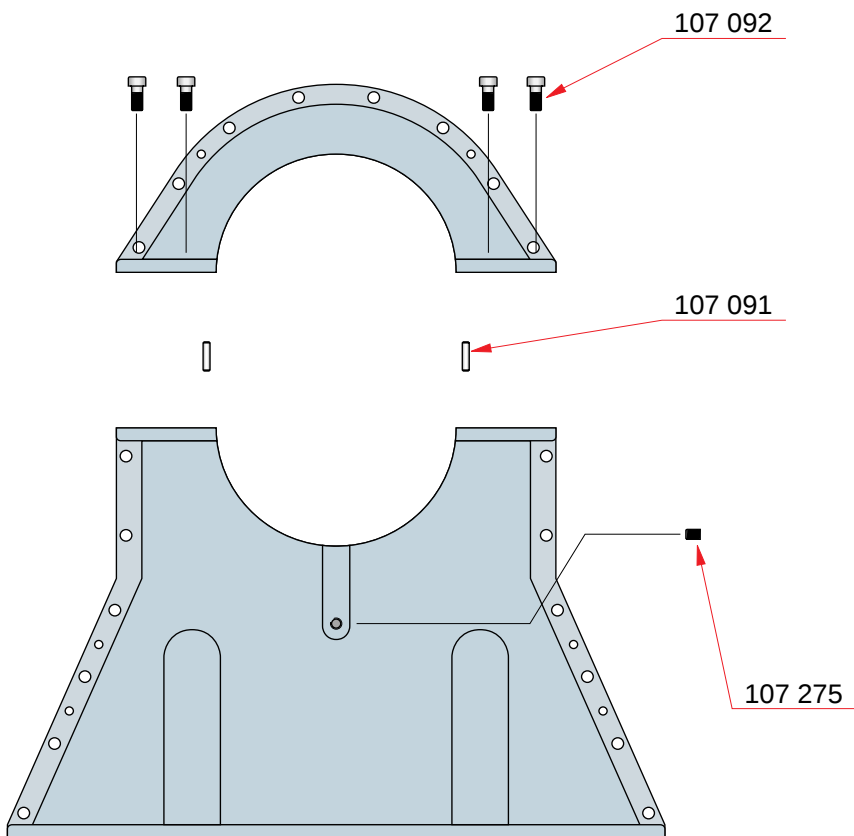
Edition: C
 Page: 4(5)
 Updated: 16.06.2004

Pump cover V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 094	Screw	32	-				
107 142	End cover, compl.	1	-				
107 091	Pin	4	-				
107 092	Screw	4	-				
107 275	Plug	3	-				

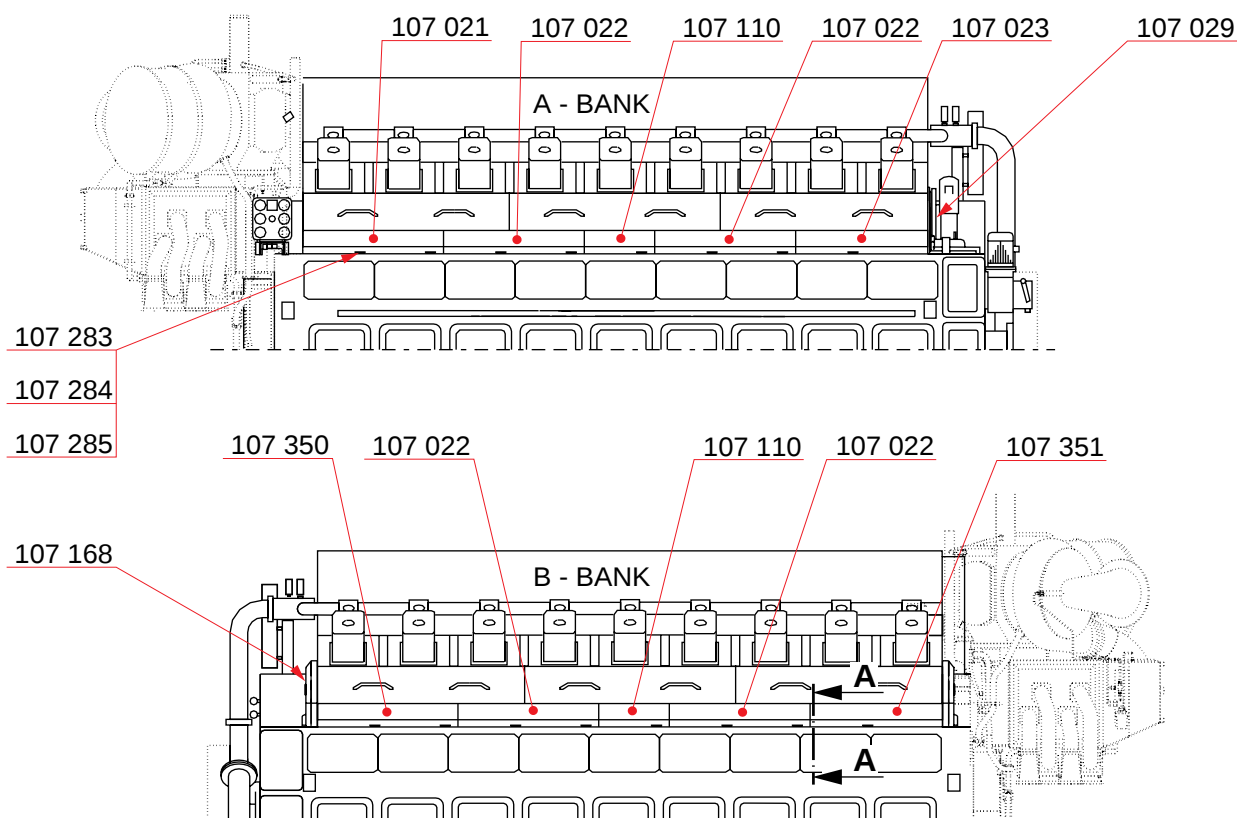
Pump cover V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 091	Pin	4	-				
107 092	Screw	4	-				
107 275	Plug	3	-				

This page is intentionally left blank.

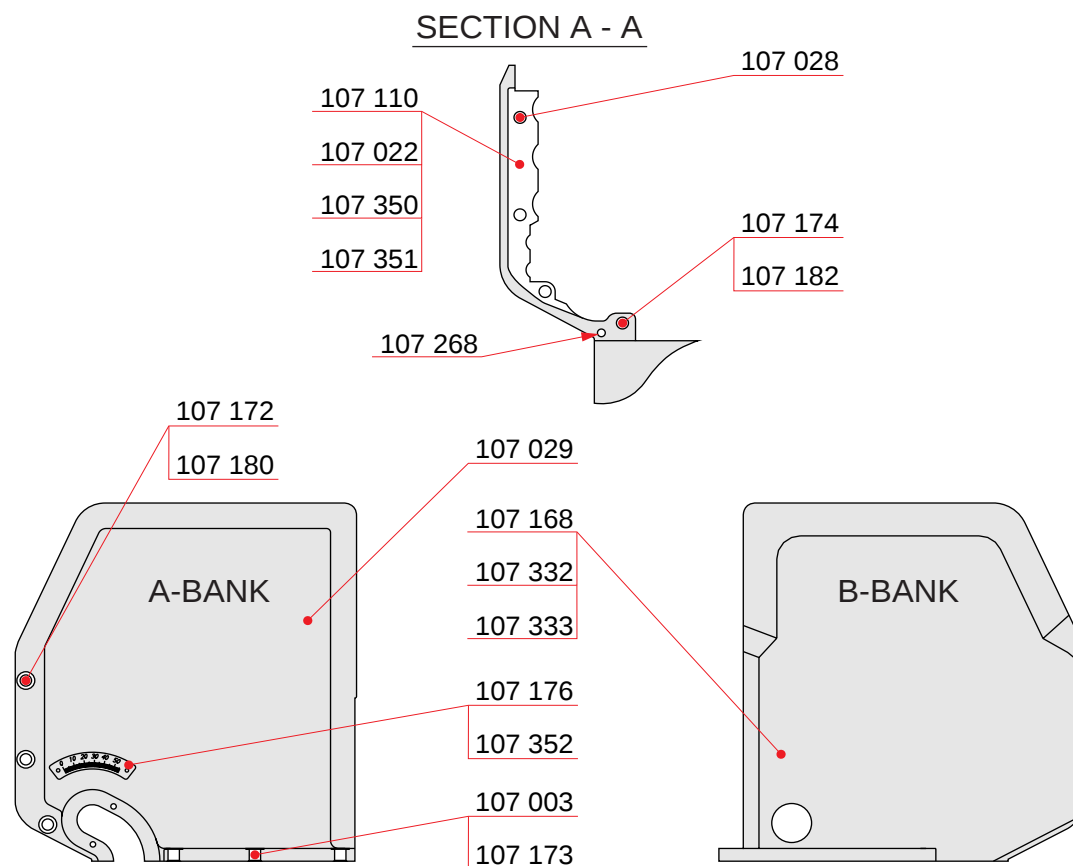
Side covers



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 021	Side cover, lower, left	1	-				
107 022	Side cover, lower, middle part	4	-				
107 023	Side cover, lower, right	1	-				
107 029	End casing in driving end	1	-				
107 110	Side cover, lower, middle part, short	2	-				
107 168	End casing in driving end, B bank	1	-				
107 283	Flange	16	-				
107 284	O-ring	16	-				
107 285	Screw	48	-				
107 350	Side cover, lower, left	1	-				
107 351	Side cover, lower, right	1	-				

Edition: A
 Page: 2(2)
 Updated: 28.11.2005

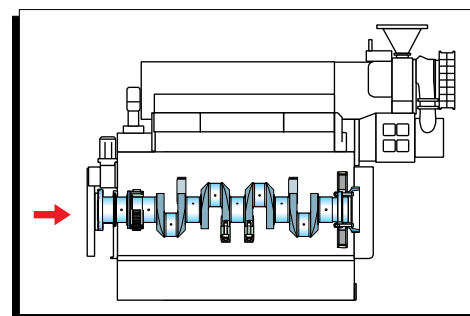
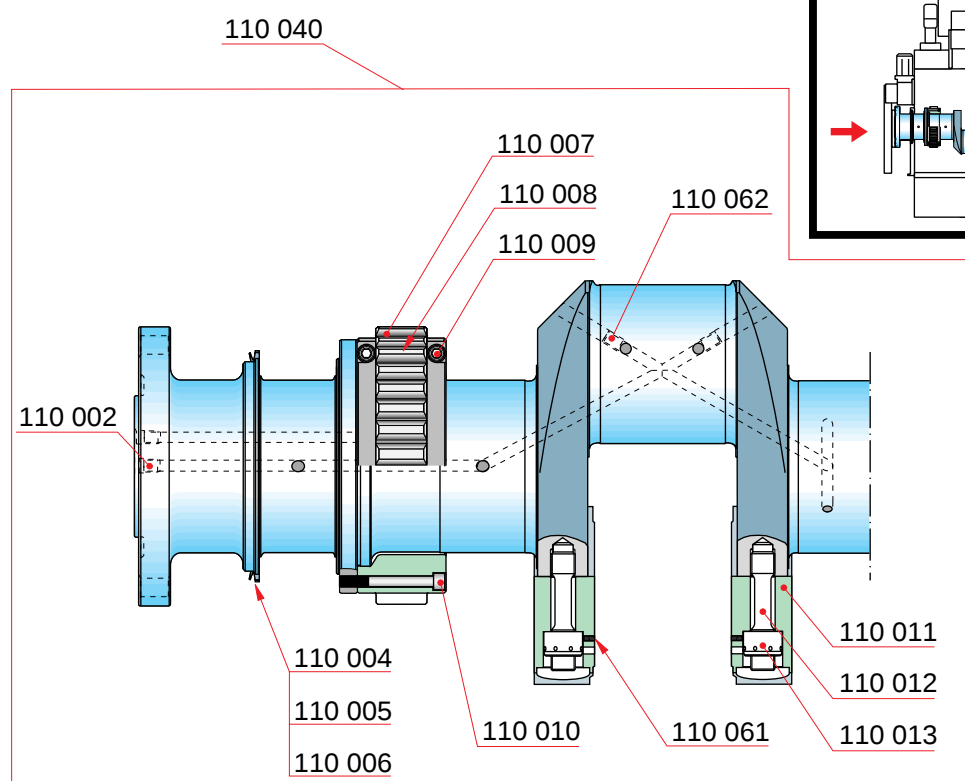
Side covers



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 003	Screw	3	-				
107 022	Side cover, lower, middle part	4	-				
107 028	Screw	44	-				
107 029	End casing in driving end	1	-				
107 110	Side cover, lower, middle part, short	2	-				
107 168	End casing in driving end, B bank	1	-				
107 172	Screw	3	-				
107 173	Screw	4	-				
107 174	Screw	36	-				
107 176	Plate for loading indicator, B bank	1	-				
107 180	Screw	3	-				
107 182	Screw	36	-				
107 268	Pin	8	-				
107 332	End cover	1	-				
107 333	Screw	4	-				
107 350	Side cover, lower, left	1	-				
107 351	Side cover, lower, right	1	-				
107 352	Grooved pin	4	-				

Crankshaft V32

Flywheel end



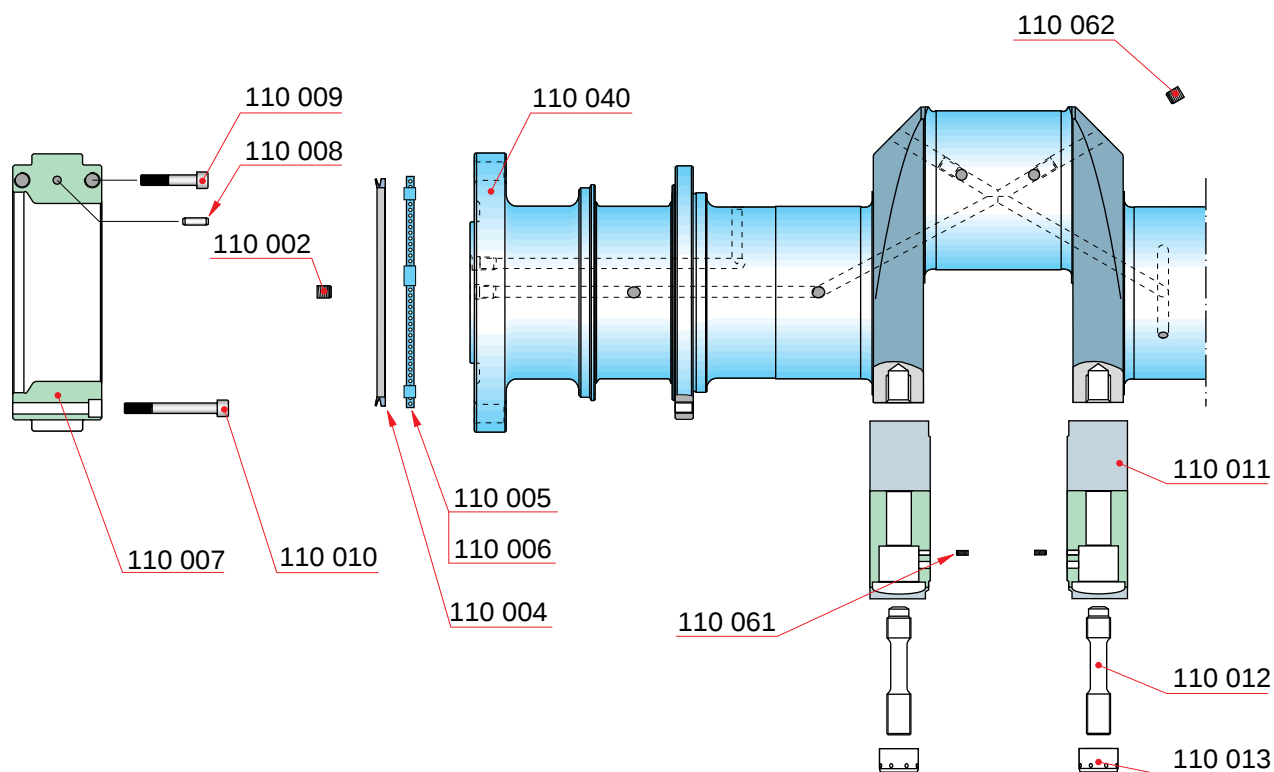
Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
110 040	Crankshaft	1	-				
110 002	Plug	2	-				
110 004	Sealing ring	1	-				
110 005	Strap	1	-				
110 006	Stretcher	8	-				
110 007	Split gear wheel	1	70.0				
110 008	Pin	2	-				
110 009	Screw	4	0.3				
110 010	Screw	14	0.4				
110 011	Counterweight	*	117				
110 012	Screw	*	2.2				
110 013	Nut	*	0.7				
110 061	Grub screw	*	-				
110 062	Plug	*	0.6				

NOTE! * See page 5

Edition: D

Page: 2(6)

Updated: 23.04.1999

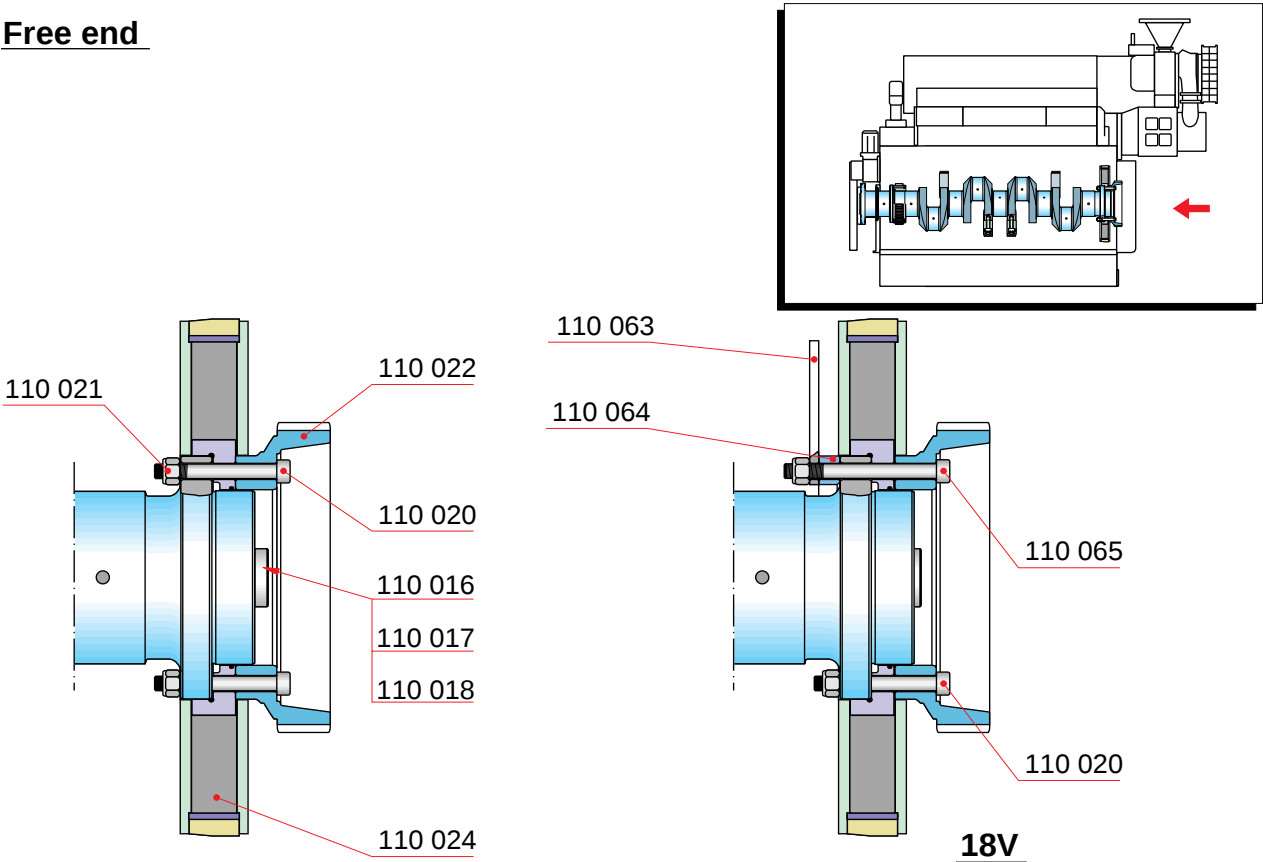
Crankshaft V32

Part No.	Description	Qty [Pcs]	Wt. [Kg]
110 002	Plug	2	-
110 004	Sealing ring	1	-
110 005	Strap	1	-
110 006	Stretcher	8	-
110 007	Split gear wheel	1	70.0
110 008	Pin	2	-
110 009	Screw	4	0.3
110 010	Screw	14	0.4
110 011	Counterweight	*	117
110 012	Screw	*	2.2
110 013	Nut	*	0.7
110 040	Crankshaft	1	-
110 061	Grub screw	*	-
110 062	Plug	*	0.6

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Crankshaft V32

Free end



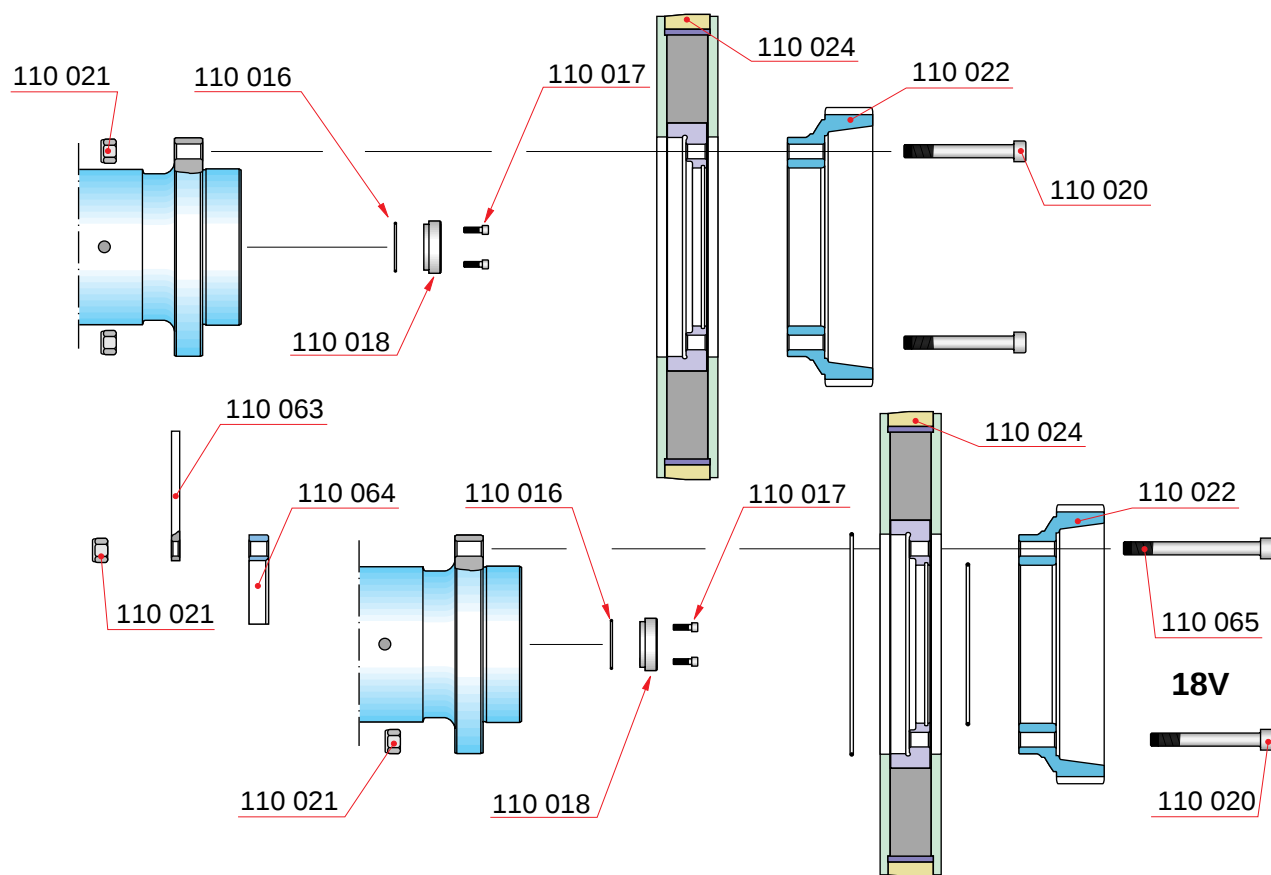
Part No.	Description	Qty [Pcs]	Wt. [Kg]
110 016	O-ring	1	-
110 017	Screw	3	-
110 018	Flange	1	2.2
110 020	Screw	*	-
110 021	Nut	20	-
110 022	Gear wheel for pumps	1	-
110 024	Vibration damper	1	-
110 063	Counterweight	*	-
110 064	Spacer	*	-
110 065	Screw	*	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
110 063	Counterweight	*	-
110 064	Spacer	*	-
110 065	Screw	*	-

NOTE! * See page 5

Edition: D
 Page: 4(6)
 Updated: 23.04.1999

Crankshaft V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]
110 016	O-ring	1	-
110 017	Screw	3	-
110 018	Flange	1	2.2
110 020	Screw	*	-
110 021	Nut	20	-
110 022	Gear wheel for pumps	1	-
110 024	Vibration damper	1	-
110 063	Counterweight	*	-
110 064	Spacer	*	-
110 065	Screw	*	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Crankshaft V32

Quantity according to number of cylinders

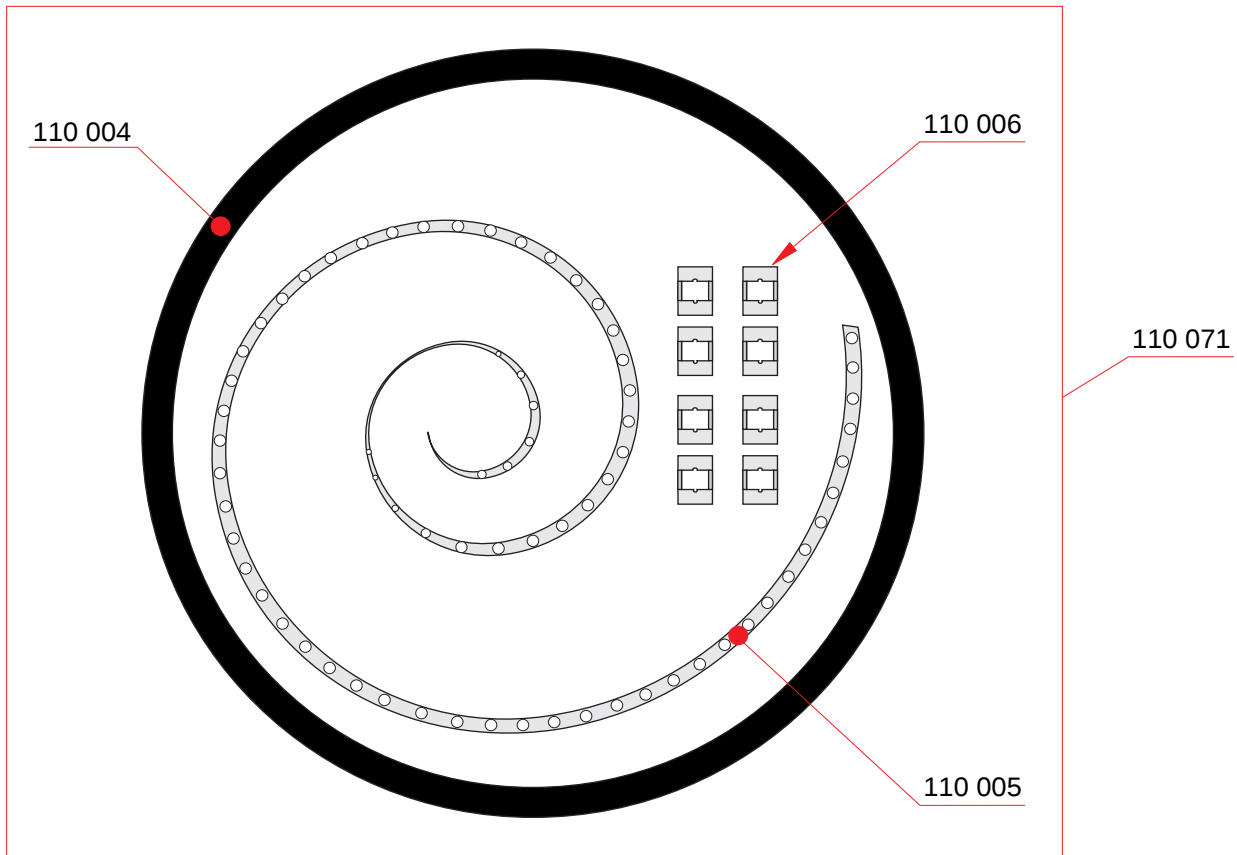
Part No	Pieces		
	12V32	16V32	18V32
110 011	12	16	18
110 012	24	32	36
110 013	24	32	36
110 020	20	20	15
110 061	24	32	36
110 062	13	18	18
110 063	-	-	1
110 064	-	-	1
110 065	-	-	5

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

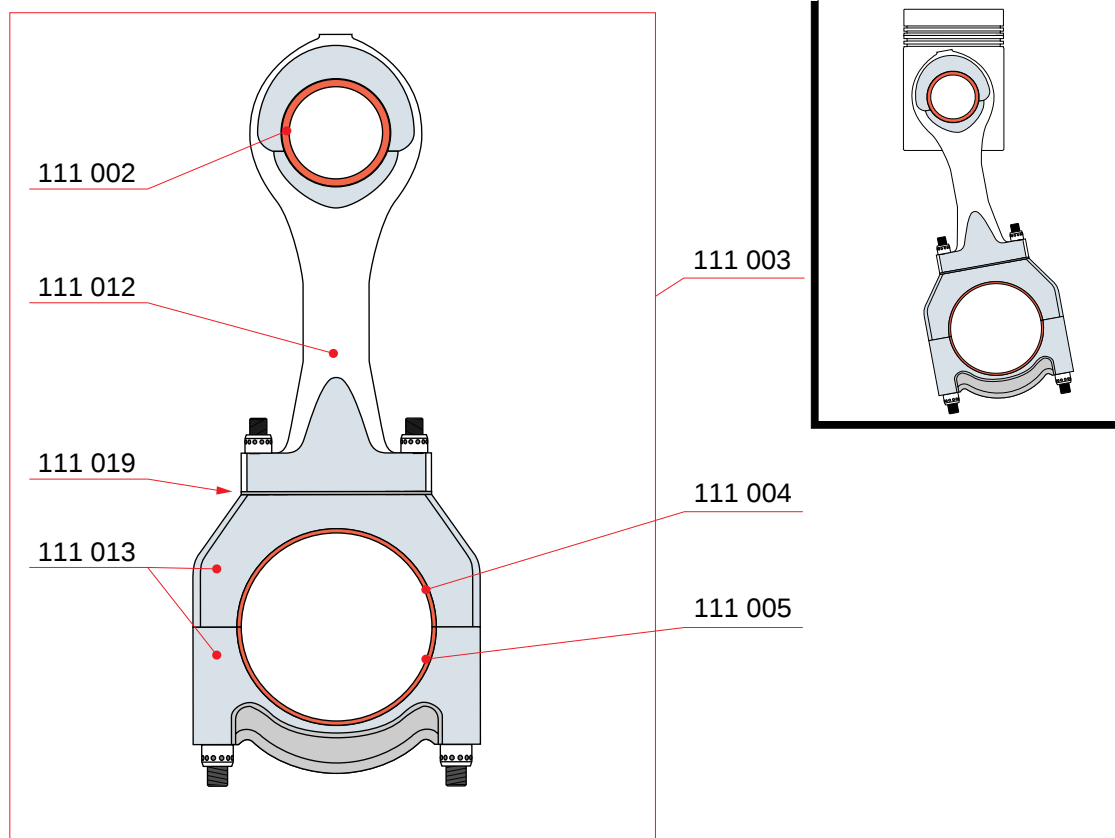
Edition: D
Page: 6(6)
Updated: 23.04.1999

Crankshaft V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
110 071	Sealing set	1	-				
110 004	Sealing ring	1	-				
110 005	Strap	1	-				
110 006	Stretcher	8	-				

Connecting rod

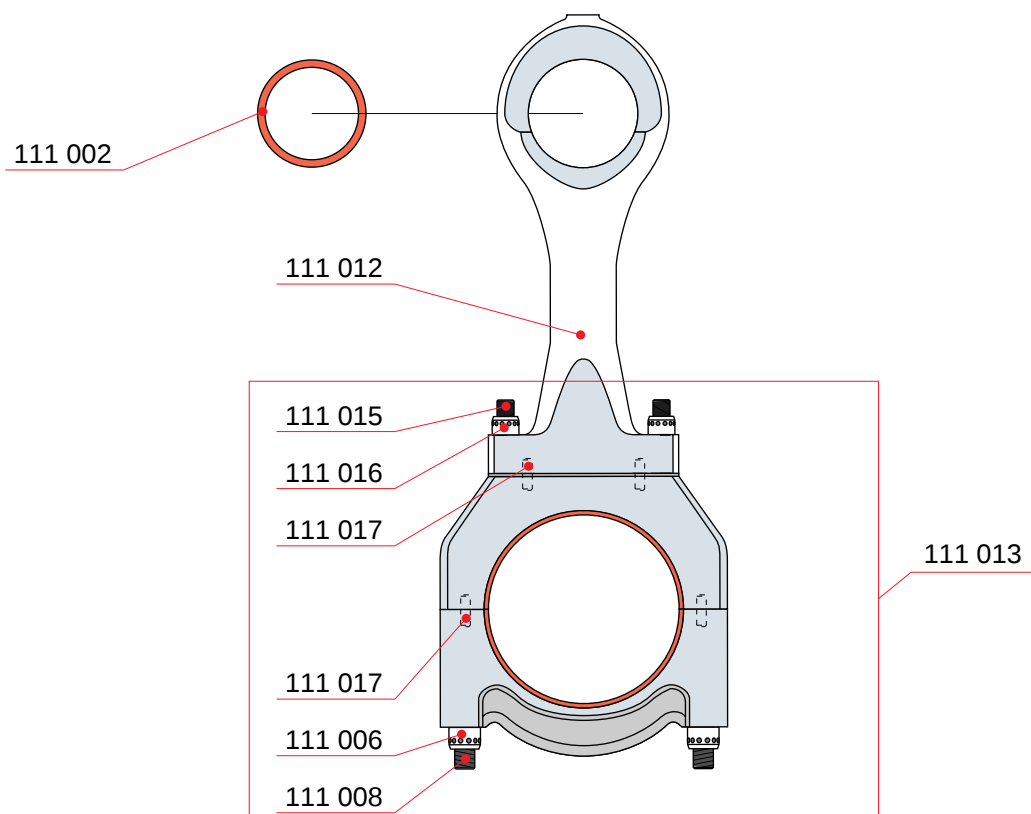


Part No.	Description	Qty [Pcs]	Wt. [Kg]
111 003	Connecting rod	1	-
111 002	Gudgeon pin bearing bush	1	3.8
111 012	Connecting rod, upper part	1	68.0
111 013	Connecting rod, lower part	1	70.0
111 019	Shim	1	0.7
111 004	Big end bearing shell, upper	1	-
111 005	Big end bearing shell, lower	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

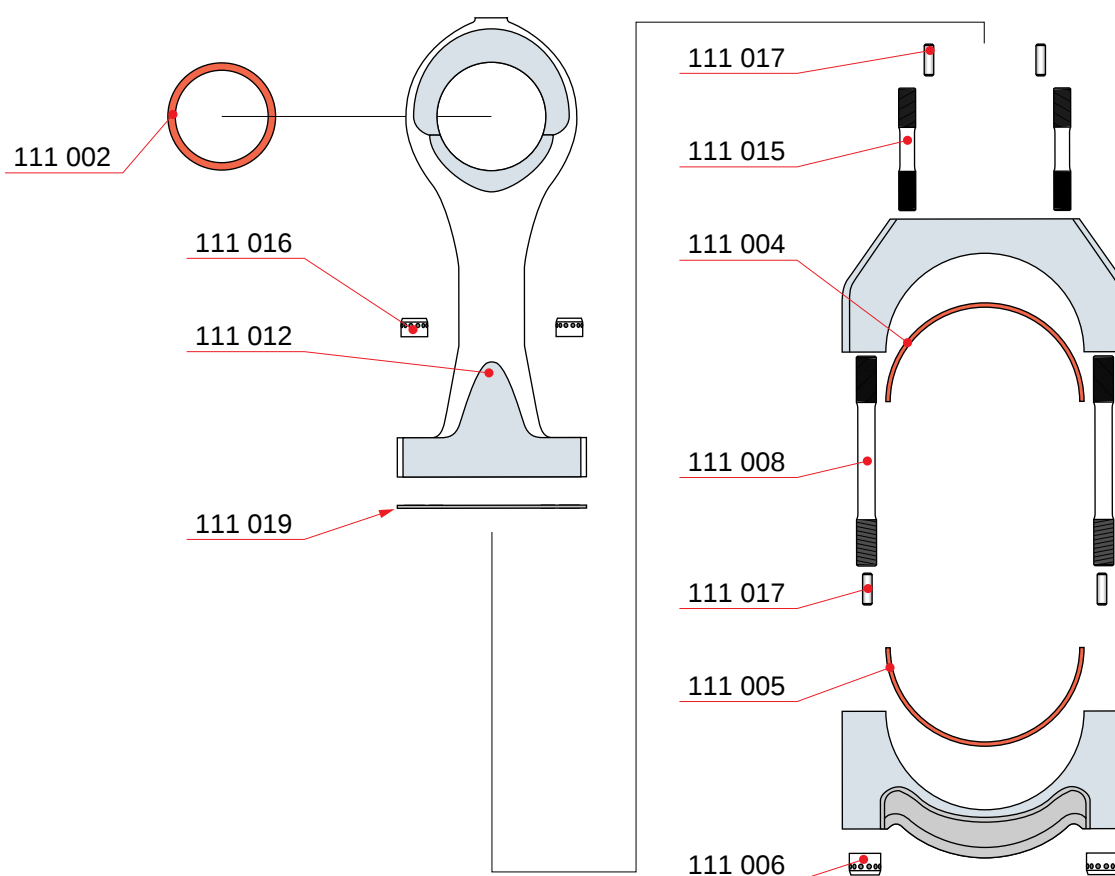
Edition: A
 Page: 2(3)
 Updated: 11.06.1996

Connecting rod



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
111 002	Gudgeon pin bearing bush	1	3.8				
111 012	Connecting rod, upper part	1	68.0				
111 013	Connecting rod, lower part	1	70.0				
111 006	Nut	4	0.2				
111 008	Big end bearing screw	4	1.3				
111 015	Screw	4	0.5				
111 016	Nut	4	0.1				
111 017	Cylindrical pin	4	-				

Connecting rod

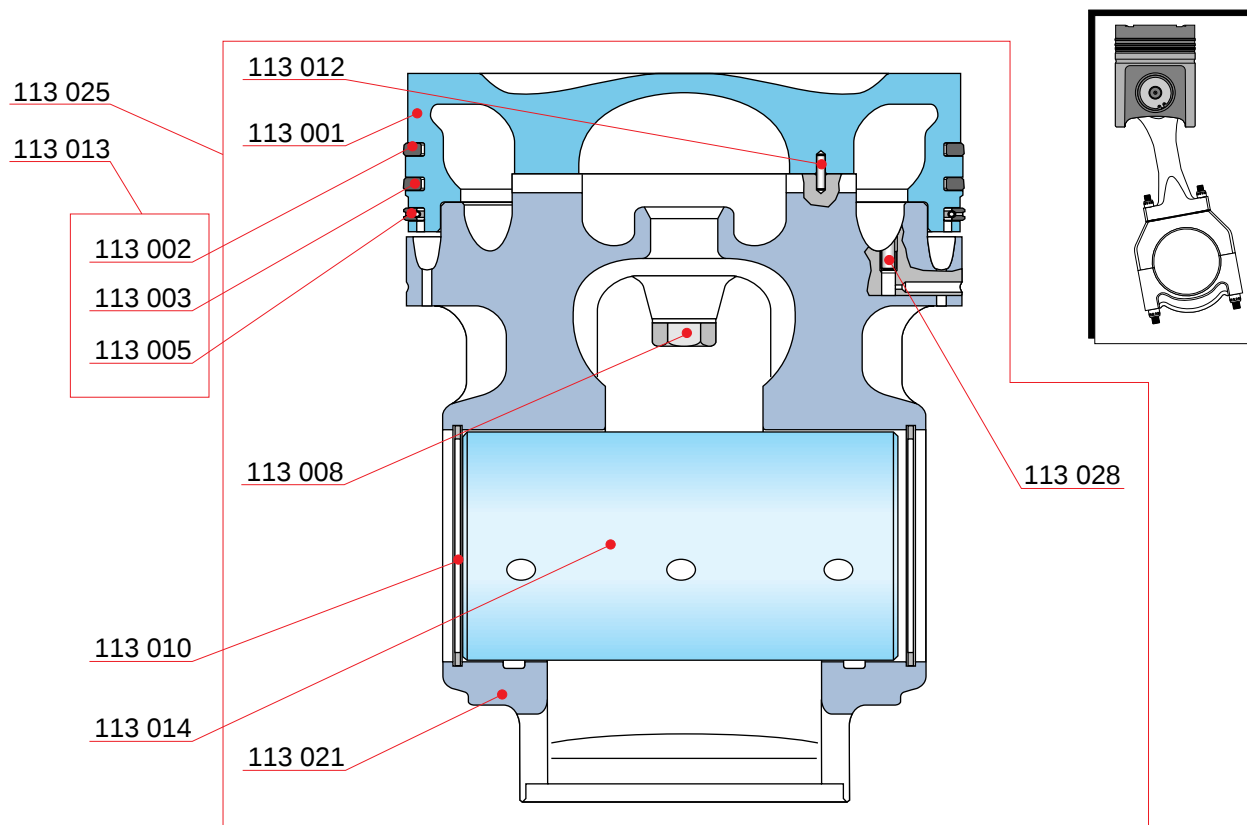


Part No.	Description	Qty [Pcs]	Wt. [Kg]
111 002	Gudgeon pin bearing bush	1	3.8
111 004	Big end bearing shell, upper		-
111 005	Big end bearing shell, lower		-
111 006	Nut	4	0.2
111 008	Big end bearing screw	4	1.3
111 012	Connecting rod, upper part	1	68.0
111 015	Screw	4	0.5
111 016	Nut	4	0.1
111 017	Cylindrical pin	4	-
111 019	Shim	1	0.7

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

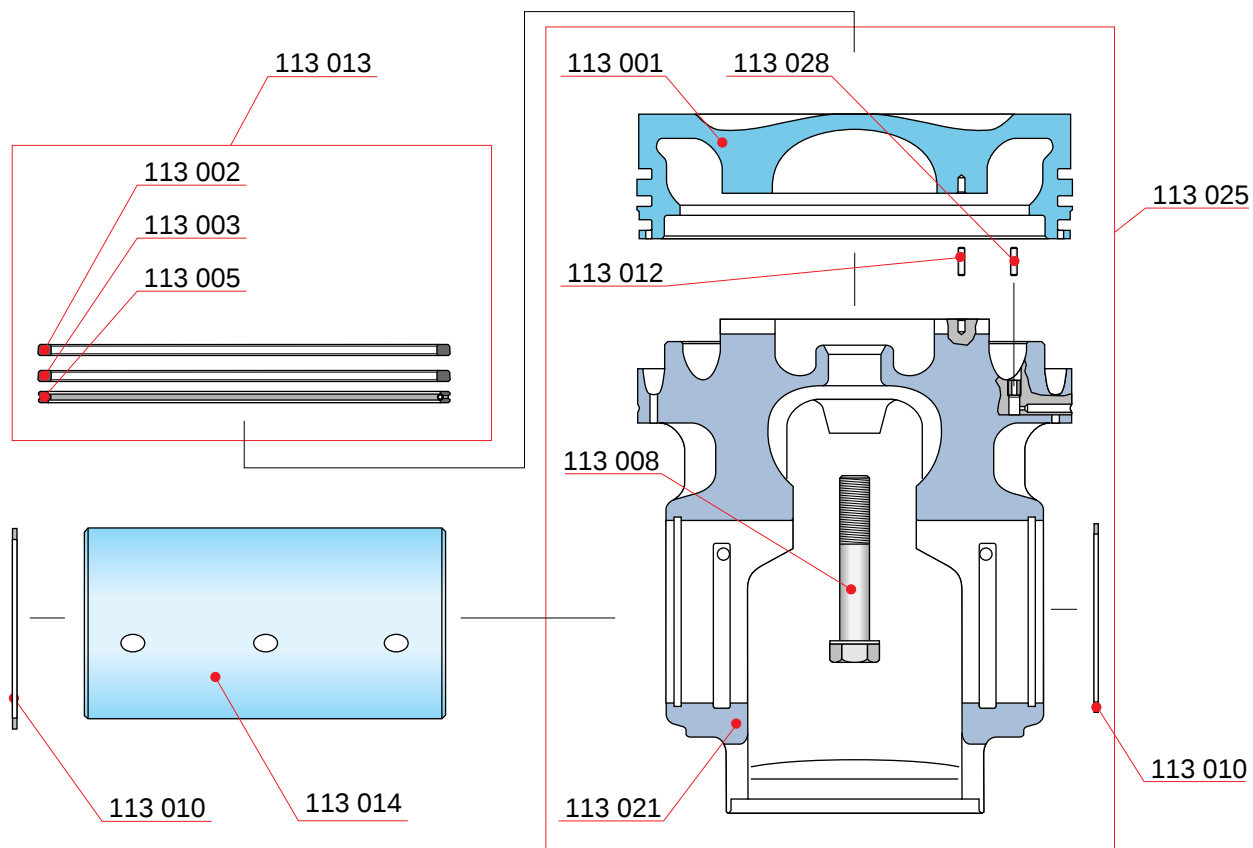
Piston



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
113 010	Securing ring	2	0.1				
113 013	Piston ring set	1	-				
113 002	Piston ring I	1	0.7				
113 003	Piston ring II	1	0.5				
113 005	Piston ring III	1	0.3				
113 014	Gudgeon pin	1	35.0				
113 025	Piston	1	58.0				
113 001	Piston crown	1	12.5				
113 008	Screw	2	0.2				
113 012	Spring pin	1	-				
113 021	Piston skirt	1	43.0				
113 028	Spring pin	4	-				

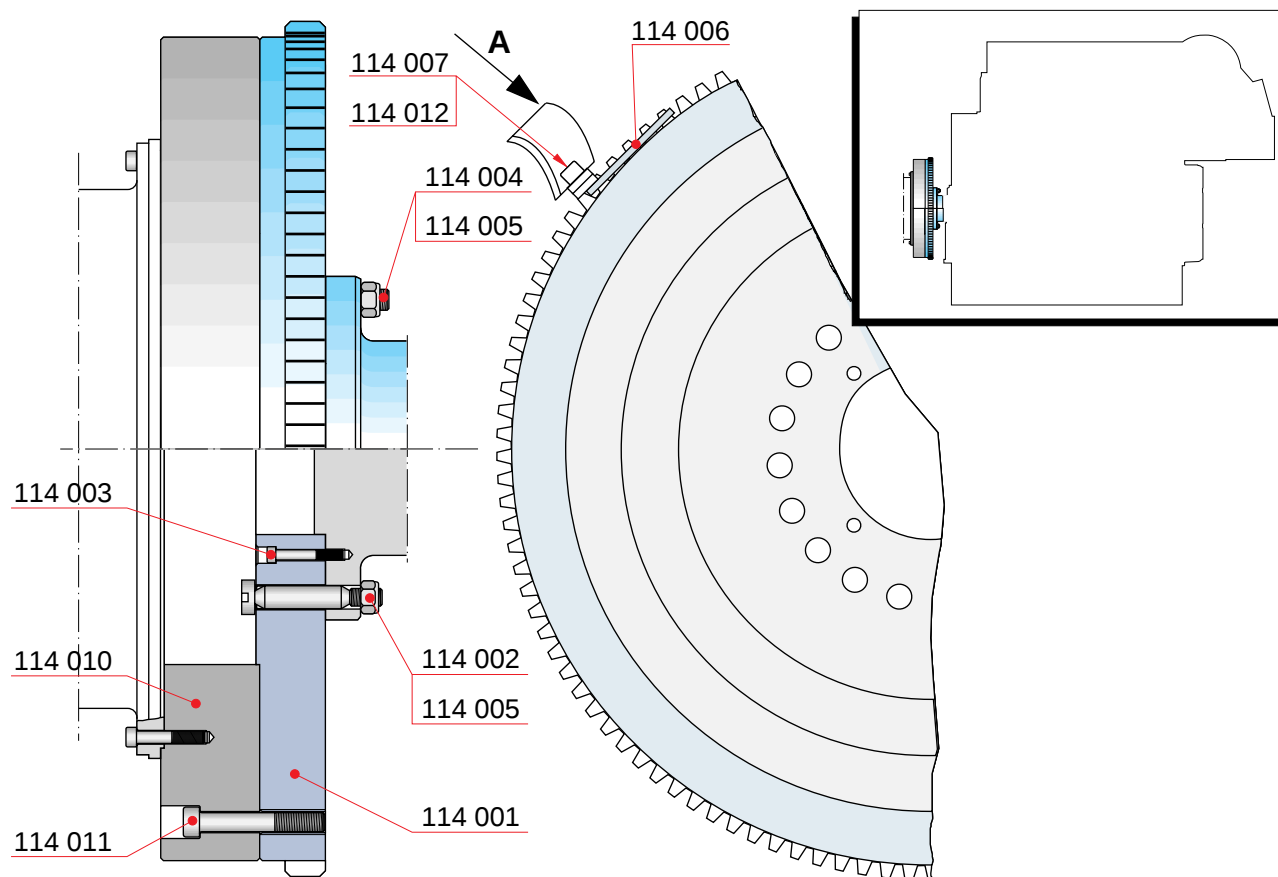
Edition: A
 Page: 2(2)
 Updated: 27.05.2005

Piston



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
113 001	Piston crown	1	12.5	113 008	Screw	4	0.2
113 002	Piston ring I	1	0.7	113 010	Securing ring	2	0.1
113 003	Piston ring II	1	0.5	113 012	Spring pin	1	-
113 005	Piston ring III	1	0.3	113 013	Piston ring set		-
113 008	Screw	4	0.2	113 014	Gudgeon pin	1	35.0
113 010	Securing ring	2	0.1	113 021	Piston skirt	1	43.0
113 012	Spring pin	1	-	113 025	Piston	1	58.0
113 013	Piston ring set		-	113 028	Spring pin	4	-
113 014	Gudgeon pin	1	35.0				
113 021	Piston skirt	1	43.0				
113 025	Piston	1	58.0				
113 028	Spring pin	4	-				

Flywheel



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
114 001	Flywheel	1	-				
114 002	Fitted bolt	*	1.1				
114 003	Screw	*	0.1				
114 004	Screw	*	1.1				
114 005	Nut	20	0.2				
114 006	Indicating device	1	0.6				
114 007	Screw	2	-				
114 010	Flywheel rim	1	-				
114 011	Screw	**	-				
114 012	Washer	2	-				

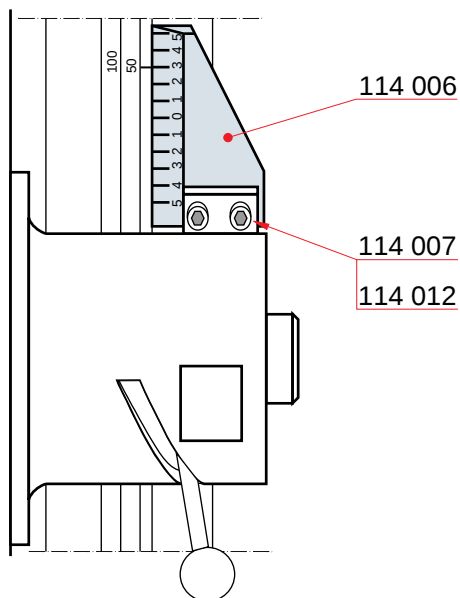
NOTE! * See page 3

NOTE! ** Please, check from the coupling manual

Edition: C
Page: 2(3)
Updated: 16.09.2003

Flywheel

VIEW A

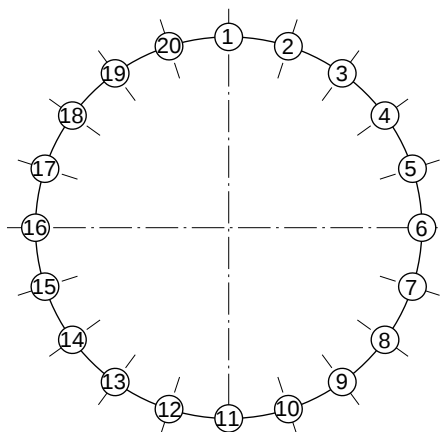


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
114 006	Indicating device	1	0.6				
114 007	Screw	2	-				
114 012	Washer	2	-				

Flywheel

TYPE A

Location of the fitted bolts,
code 114 002



Engine type	Location	114 002	114 004
4R32	1, 8, 15	3	17
6R32	1, 6, 11, 16	4	16
8R32	1, 5, 9, 13, 17	5	15
9R32	1, 5, 9, 13, 17	5	15
12V32	1, 4, 7, 10, 13, 16, 19	7	13
16V32	1, 3, 5, 8, 10, 12, 14, 17, 19	9	11
18V32	1, 3, 5, 7, 9, 11, 13, 15, 17, 19	10	10

TYPE B

Engine type	Location	114 002	114 004
4R32	1, 8, 15	3	17
6R32	1, 5, 9, 13, 17	5	15
8R32	1, 4, 8, 11, 14, 18	6	14
9R32	1, 3, 5, 7, 9, 11, 13, 15, 17, 19	10	10
12V32	1, 3, 5, 7, 9, 11, 13, 15, 17, 19	10	10
16V32	1, 2, 4, 5, 7, 8, 10, 11, 12, 14, 15, 17, 18, 20	14	6
18V32	1, 2, 4, 5, 7, 8, 10, 11, 12, 14, 15, 17, 18, 20	14	6

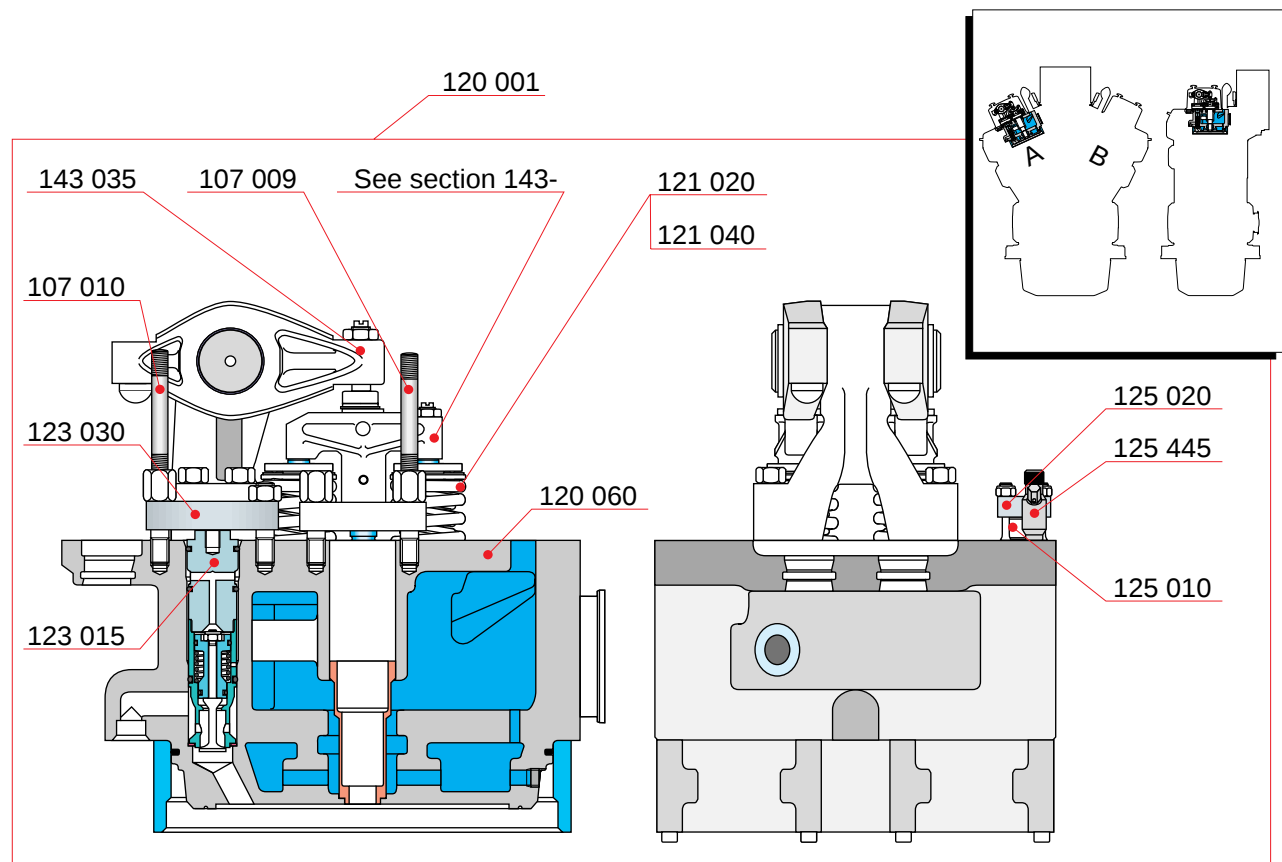
Part No.	Description	Qty [Pcs]	Wt. [Kg]
114 002	Fitted bolt	10	1.1
114 004	Screw	10	1.1

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

NOTE! The amount and locations of fitted bolts may vary between installations.

This page is intentionally left blank.

Cylinder head with starting valve

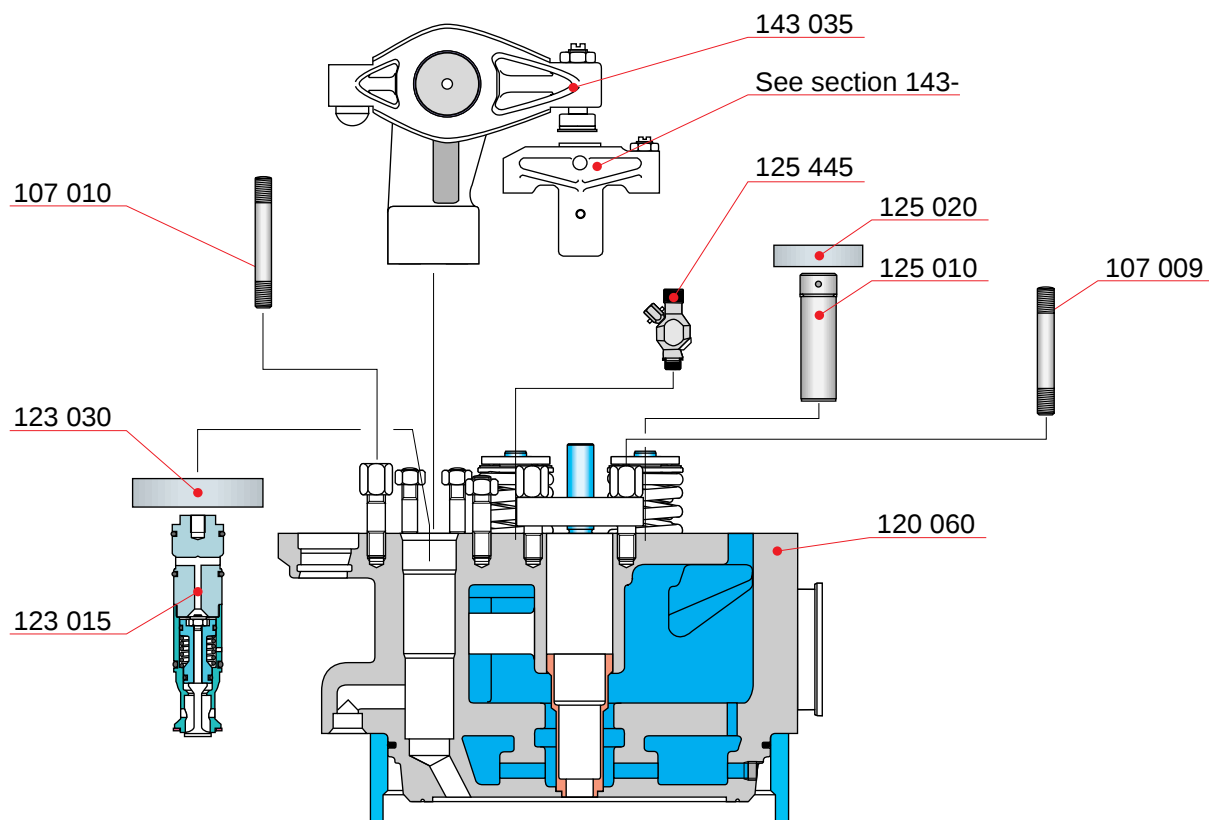


Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 001	Cylinder head, A bank	1	-
107 009	Screw	1	0.2
107 010	Screw	1	0.3
120 060	Cylinder head (1)	1	311
123 015	Starting valve (2)	1	4.2
123 030	Yoke	1	1.6
125 010	Relief valve (3)	1	1.2
125 020	Yoke	1	0.5
125 445	Indicator valve, compl. (4)	1	0.6
143 035	Rocker arms with bracket (5)	1	34.0
121 020	Inlet valve (6)	2	-
121 040	Exhaust valve (6)	2	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Edition: C
 Page: 2(2)
 Updated: 28.10.2001

Cylinder head with starting valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 009	Screw	1	0.2				
107 010	Screw	1	0.3				
120 060	Cylinder head	1	311				
123 015	Starting valve	1	4.2				
123 030	Yoke	1	1.6				
125 010	Relief valve	1	1.2				
125 020	Yoke	1	0.5				
125 445	Indicator valve, compl.	1	0.6				
143 035	Rocker arms with bracket	1	34.0				

NOTE! (1) see section 120-12.

NOTE! (2) see section 123-

NOTE! (3) see section 125-01.

NOTE! (4) see section 125-02.

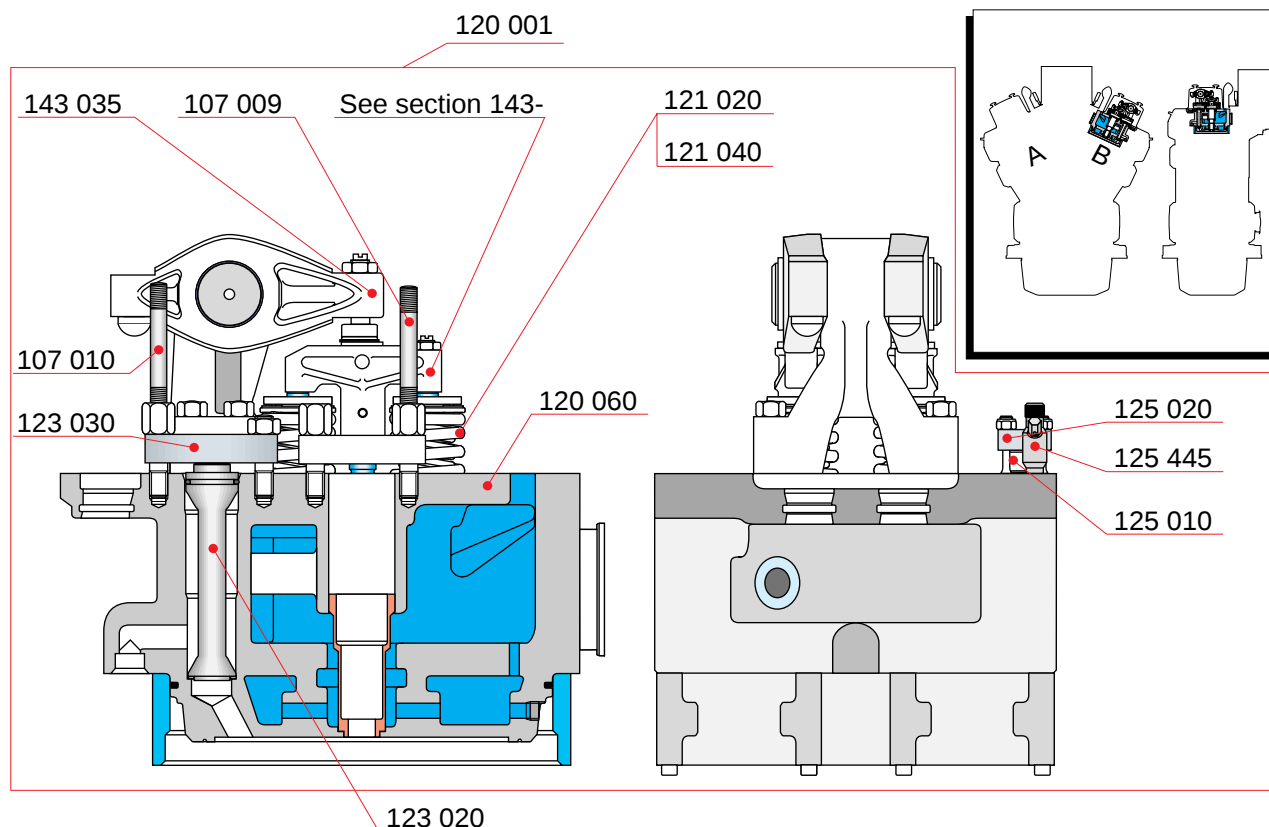
NOTE! (5) see section 143-.

NOTE! (6) see section 121-.

NOTE! High pressure connection piece, see section 167.

NOTE! Injection valve, see section 167.

Cylinder head without starting valve



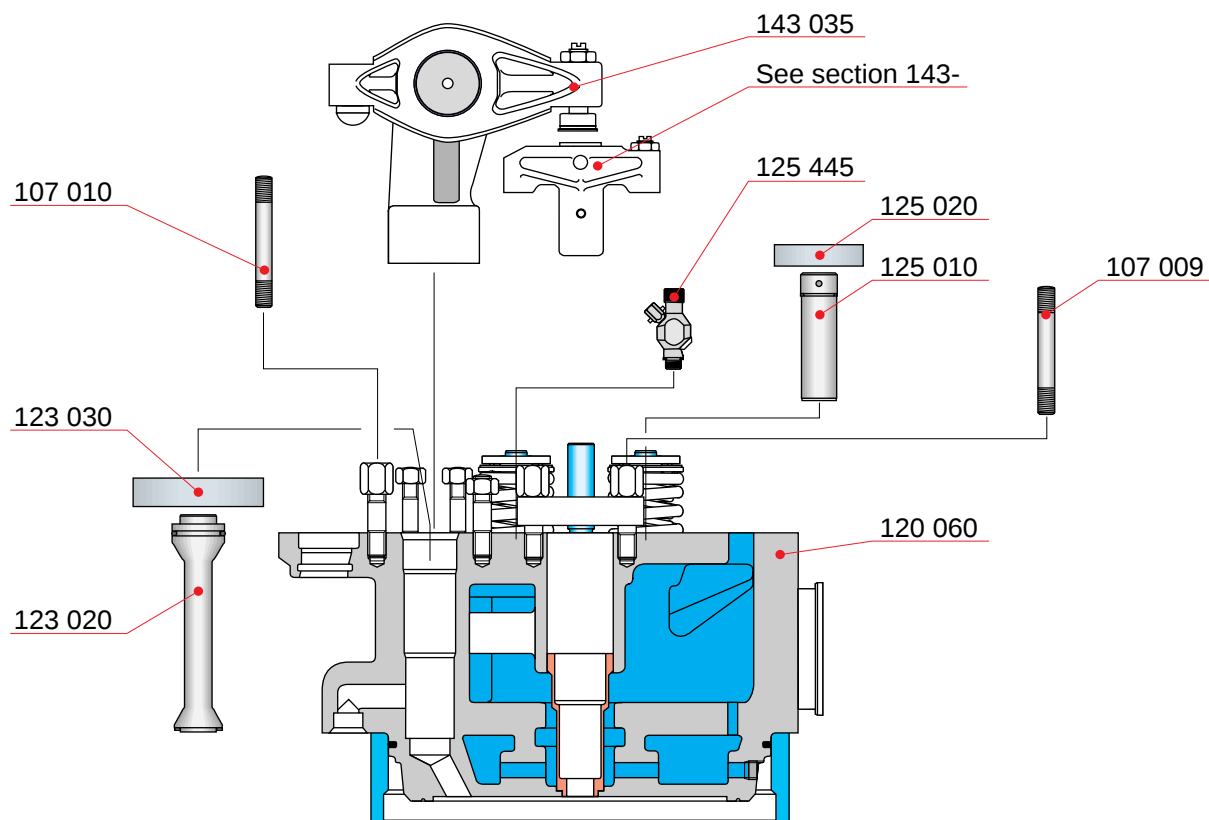
Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 001	Cylinder head, A bank		-
107 009	Screw	1	0.2
107 010	Screw	1	0.3
120 060	Cylinder head (1)	1	311
123 030	Yoke	1	1.6
125 010	Relief valve (3)	1	1.2
125 020	Yoke	1	0.5
125 445	Indicator valve, compl. (4)	1	0.6
143 035	Rocker arms with bracket (5)	1	34.0
121 020	Inlet valve (6)	2	-
121 040	Exhaust valve (6)	2	-
123 020	Dummy (2)	1	2.5

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

NOTE! Cylinder head 120 001 is always delivered with starting valve. If dummy 123 020 is required it must be ordered separately.

Edition: C
 Page: 2(2)
 Updated: 24.10.2002

Cylinder head without starting valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 009	Screw	1	0.2				
107 010	Screw	1	0.3				
120 060	Cylinder head	1	311				
123 020	Dummy	1	2.5				
123 030	Yoke	1	1.6				
125 010	Relief valve	1	1.2				
125 020	Yoke	1	0.5				
125 445	Indicator valve, compl.	1	0.6				
143 035	Rocker arms with bracket	1	34.0				

NOTE! (1) see section 120-12.

NOTE! (2) see section 123-

NOTE! (3) see section 125-01.

NOTE! (4) see section 125-02.

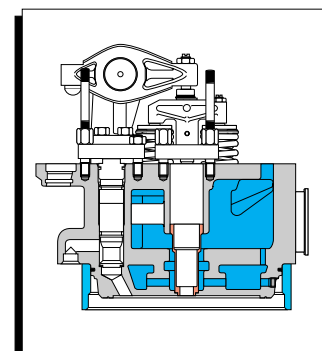
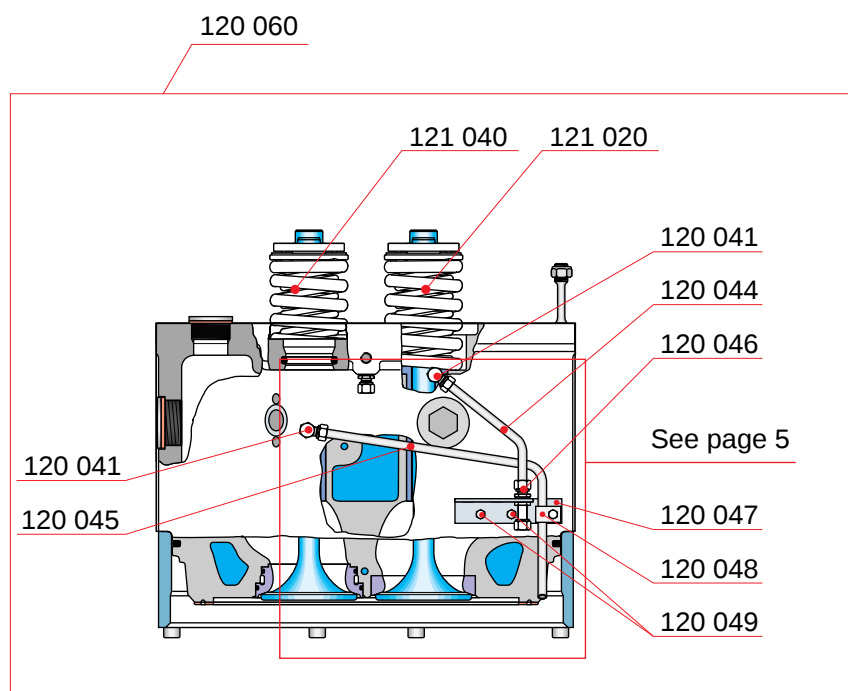
NOTE! (5) see section 143-.

NOTE! (6) see section 121-.

NOTE! High pressure connection piece, see section 167.

NOTE! Injection valve, see section 167.

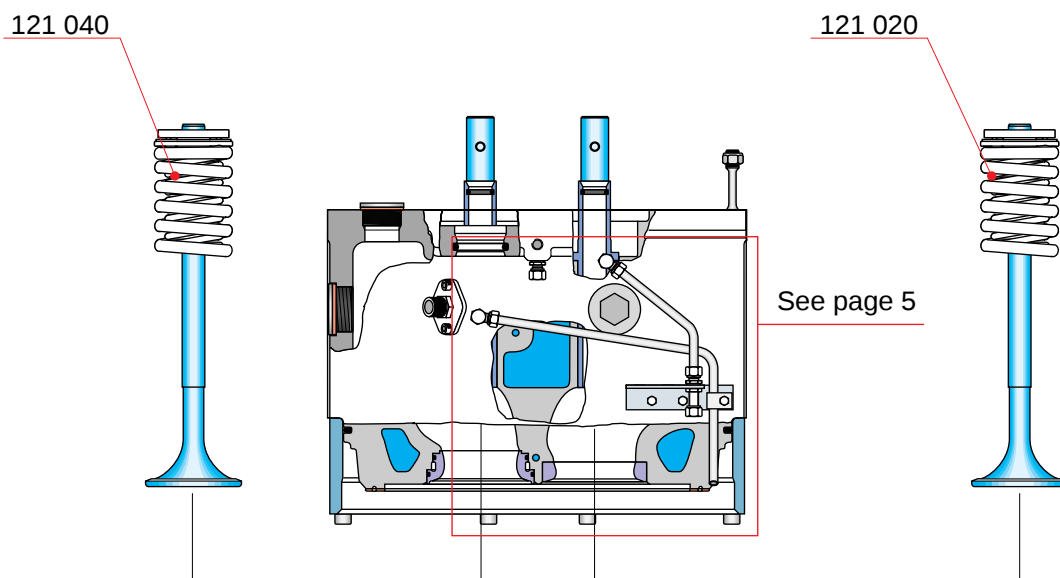
Cylinder head



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 060	Cylinder head	1	311				
120 041	Pipe union	4	-				
120 044	Pipe	1	-				
120 045	Pipe	1	-				
120 046	Pipe union	3	-				
120 047	Pipe clamp	1	0.2				
120 048	Pipe clamp	1	-				
120 049	Screw	3	-				
121 020	Inlet valve (1)	2	-				
121 040	Exhaust valve (2)	2	-				

Edition: F
Page: 2(6)
Updated: 25.10.2002

Cylinder head

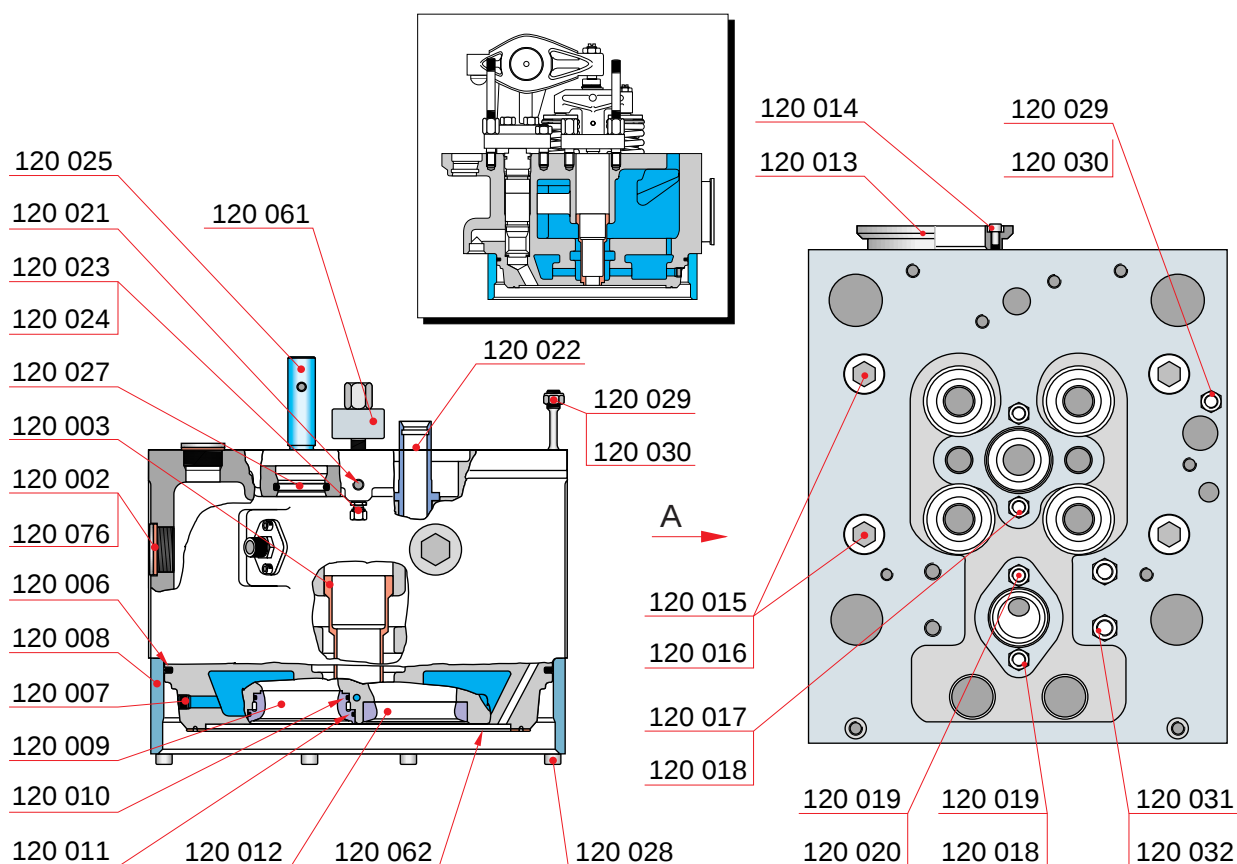


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

NOTE! (1) See section 121-XX
(XX=according to instalation.)

NOTE! (2) See section 121-XX
(XX=according to instalation).

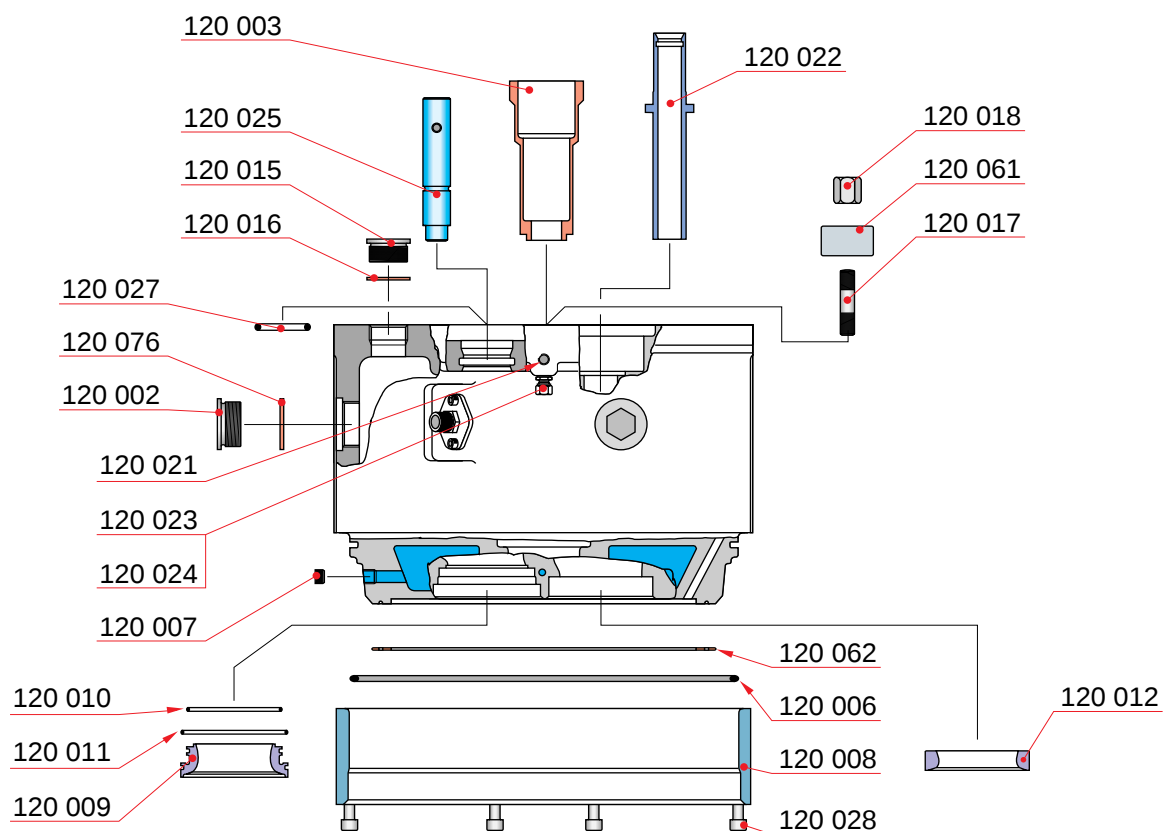
Cylinder head



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 002	Plug	5	0.4	120 025	Yoke pin	2	0.9
120 003	Sleeve for injection valve	1	1.5	120 027	O-ring	2	-
120 006	O-ring	1	-	120 028	Screw	8	0.1
120 007	Plug	3	-	120 029	Screw	2	-
120 008	Water jacket	1	22.0	120 030	Nut	2	-
120 009	Seat ring, exhaust	2	0.9	120 031	Screw	4	0.2
120 010	O-ring	2	-	120 032	Nut	4	-
120 011	O-ring	2	-	120 061	Yoke	1	2.0
120 012	Seat ring, inlet	2	0.6	120 062	Cylinder head gasket	1	0.3
120 013	Flange	1	2.2				
120 014	Screw	6	-				
120 015	Plug	4	0.2				
120 016	Sealing ring	4	-				
120 017	Screw	2	0.1				
120 018	Nut	3	-				
120 019	Screw	2	0.1				
120 076	Sealing ring	5	-				
120 020	Nut	1	-				
120 021	Plug	1	-				
120 022	Valve guide	4	1.5				
120 023	Pipe union	1	-				
120 024	Sealing ring	1	-				

Edition: F
 Page: 4(6)
 Updated: 25.10.2002

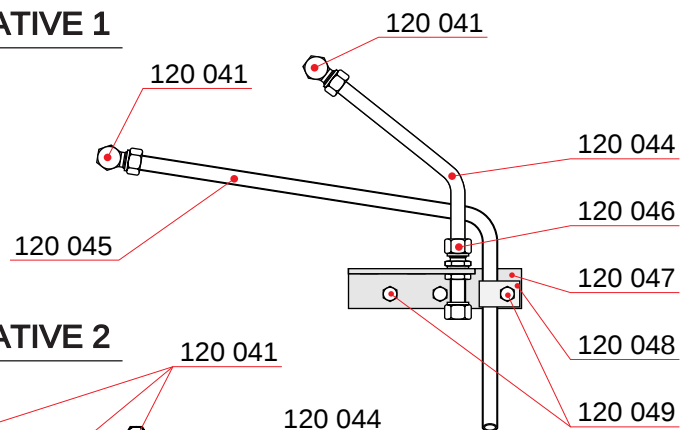
Cylinder head



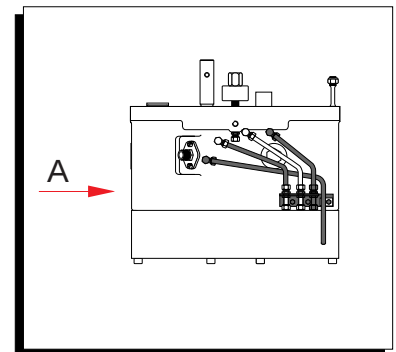
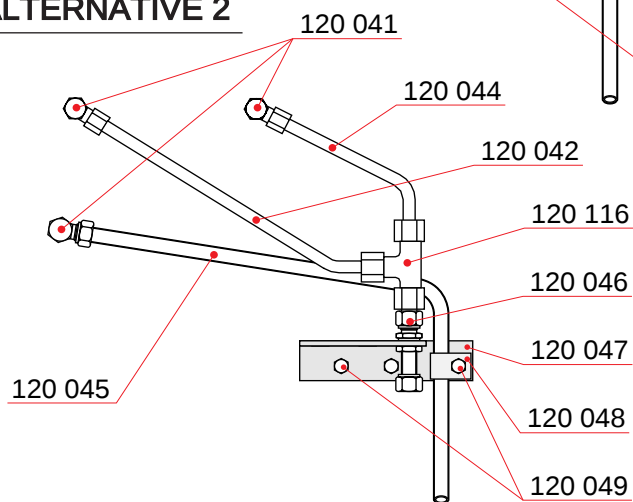
Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

Cylinder head

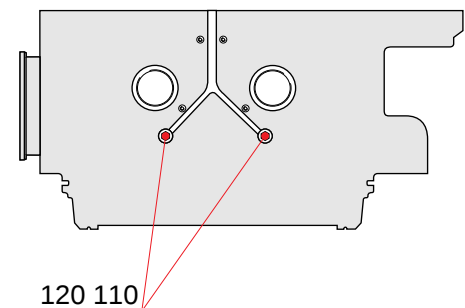
ALTERNATIVE 1



ALTERNATIVE 2



View A

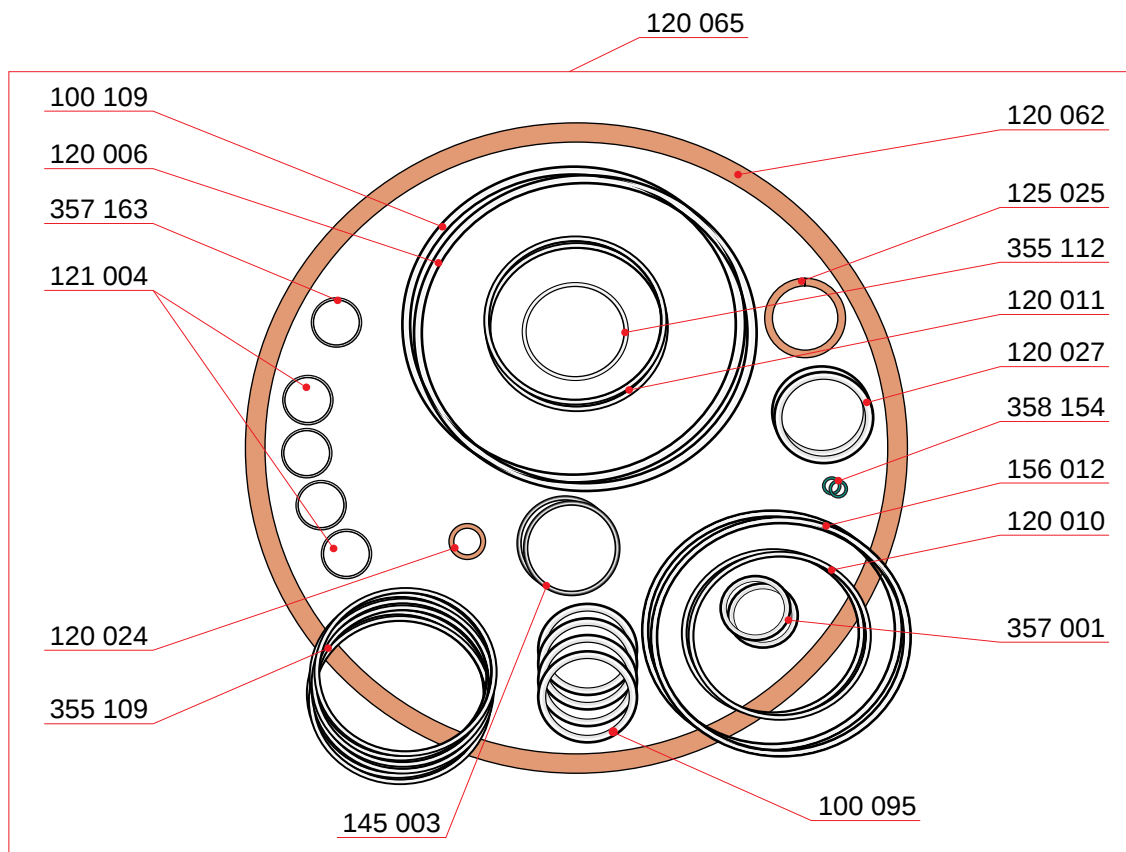


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 041	Pipe union	2	-				
120 042	Pipe	1	-				
120 044	Pipe	1	-				
120 045	Pipe	1	-				
120 046	Pipe union	1	-				
120 047	Pipe clamp	1	0.2				
120 048	Pipe clamp	1	-				
120 049	Screw	3	-				
120 110	Plug (1)	2	-				
120 116	Pipe	1	-				

NOTE! (1) Only if without temp. sensors

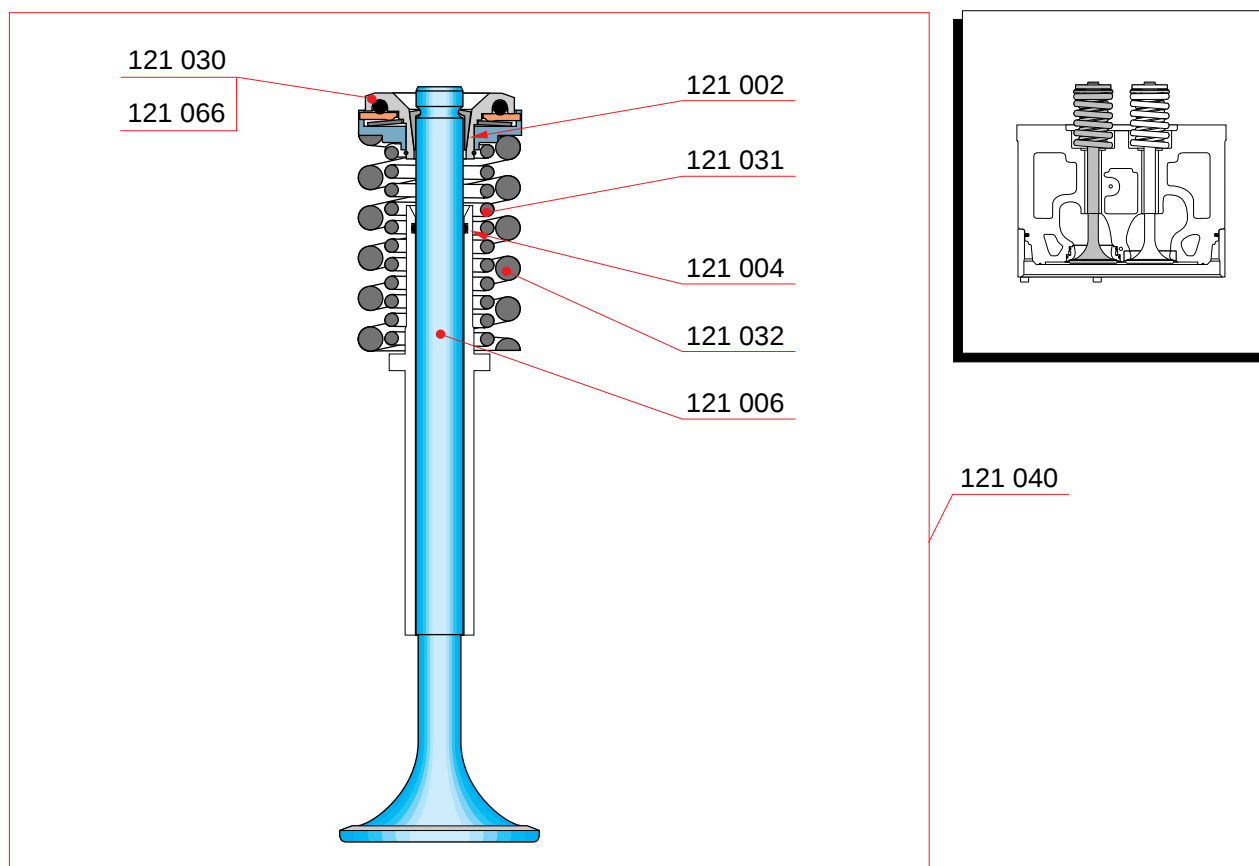
Edition: F
 Page: 6(6)
 Updated: 25.10.2002

Cylinder head



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 065	Sealing set for cylinder head	1	0.6				
100 095	O-ring	4	-				
100 109	O-ring	1	-				
120 006	O-ring	1	-				
120 010	O-ring	2	-				
120 011	O-ring	2	-				
120 024	Sealing ring	1	-				
120 027	O-ring	2	-				
120 062	Cylinder head gasket	1	0.3				
121 004	O-ring	4	-				
125 025	Sealing ring	1	-				
145 003	O-ring	2	-				
156 012	O-ring	2	-				
355 109	O-ring	4	-				
355 112	O-ring	1	-				
357 001	O-ring	2	-				
357 163	O-ring	1	-				
358 154	O-ring	2	-				

Exhaust valve with rotocap

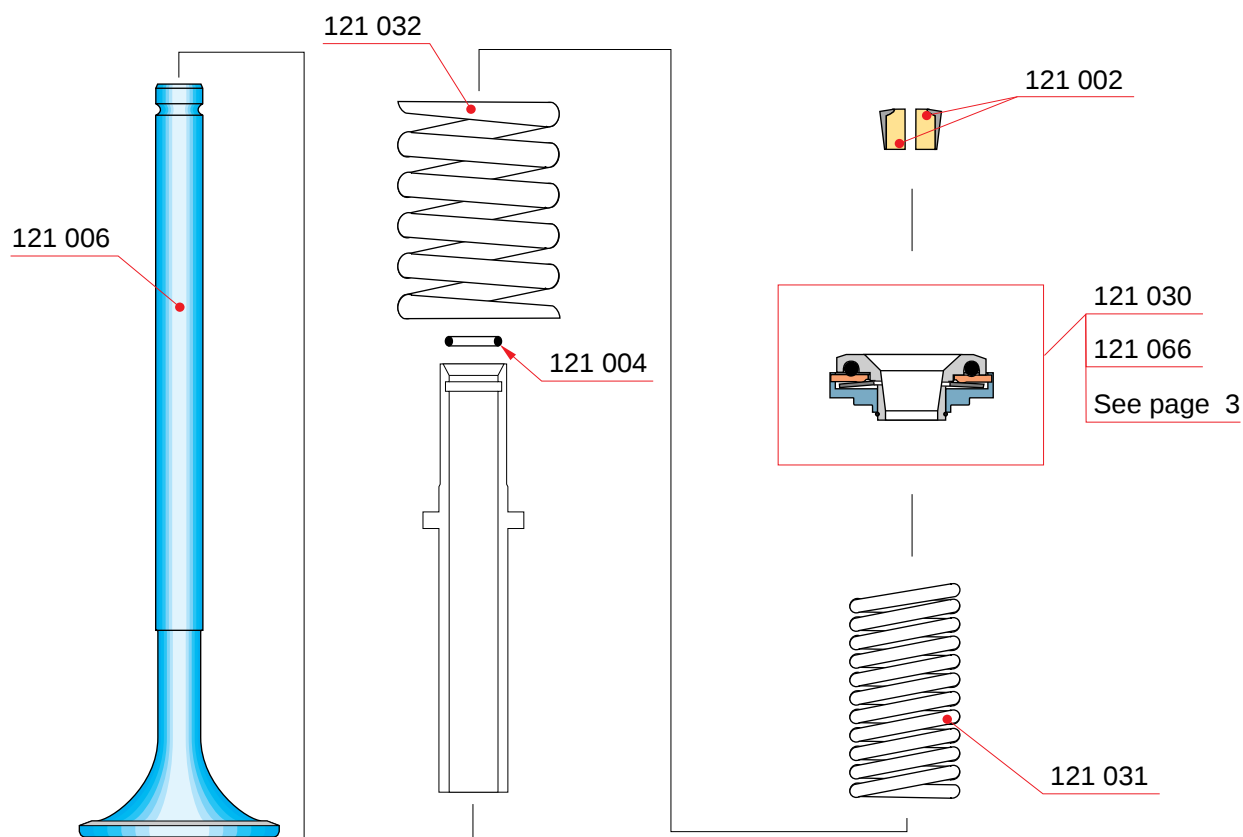


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
121 040	Exhaust valve	1	-				
121 002	Valve cotter pair	1	-				
121 004	O-ring	1	-				
121 006	Valve	1	2.7				
121 030	Rotocap	1	0.7				
121 066	Spare part set	1	0.7				
121 031	Valve spring, inner	1	0.6				
121 032	Valve spring, outer	1	1.3				

NOTE! Code 121 030 includes the complete rotocap, code 121 066 includes the spare part set

Edition: B
 Page: 2(4)
 Updated: 30.09.1999

Exhaust valve with rotocap

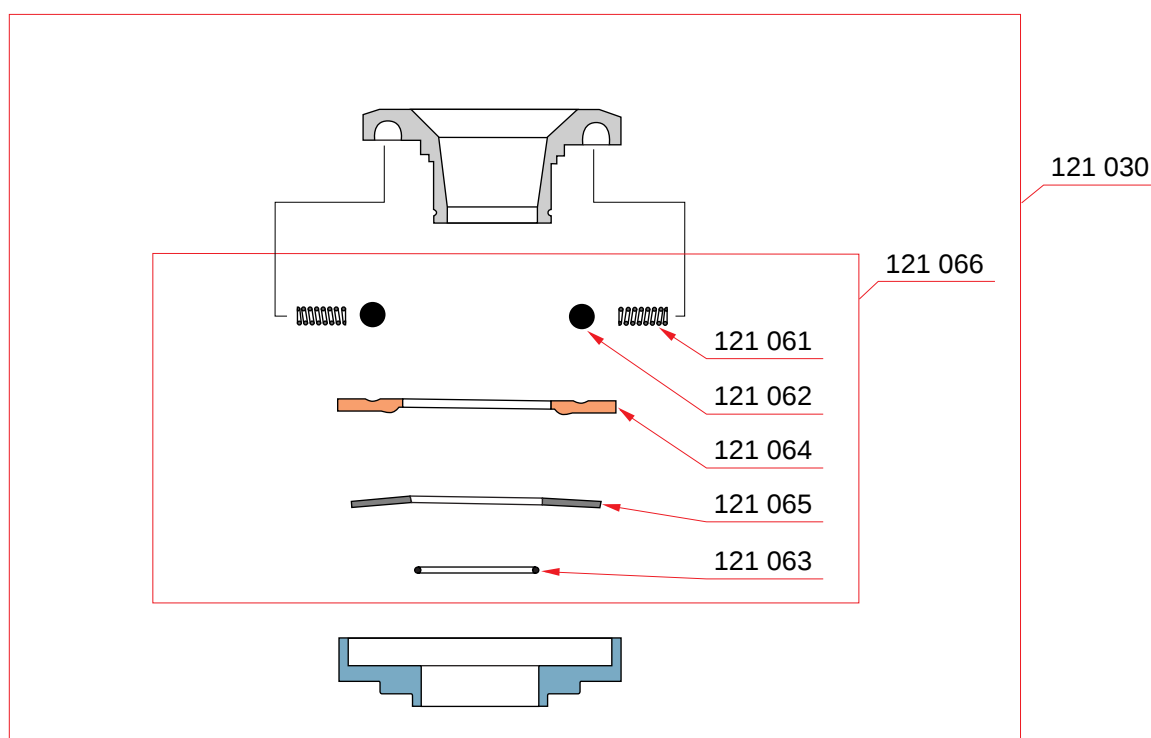


Part No.	Description	Qty [Pcs]	Wt. [Kg]
121 002	Valve cotter pair	1	-
121 004	O-ring	1	-
121 006	Valve	1	2.7
121 030	Rotocap	1	0.7
121 031	Valve spring, inner	1	0.6
121 032	Valve spring, outer	1	1.3
121 066	Spare part set	1	0.7

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

NOTE! Code 121 030 includes the complete rotocap, code 121 066 includes the spare part set

Exhaust valve with rotocap

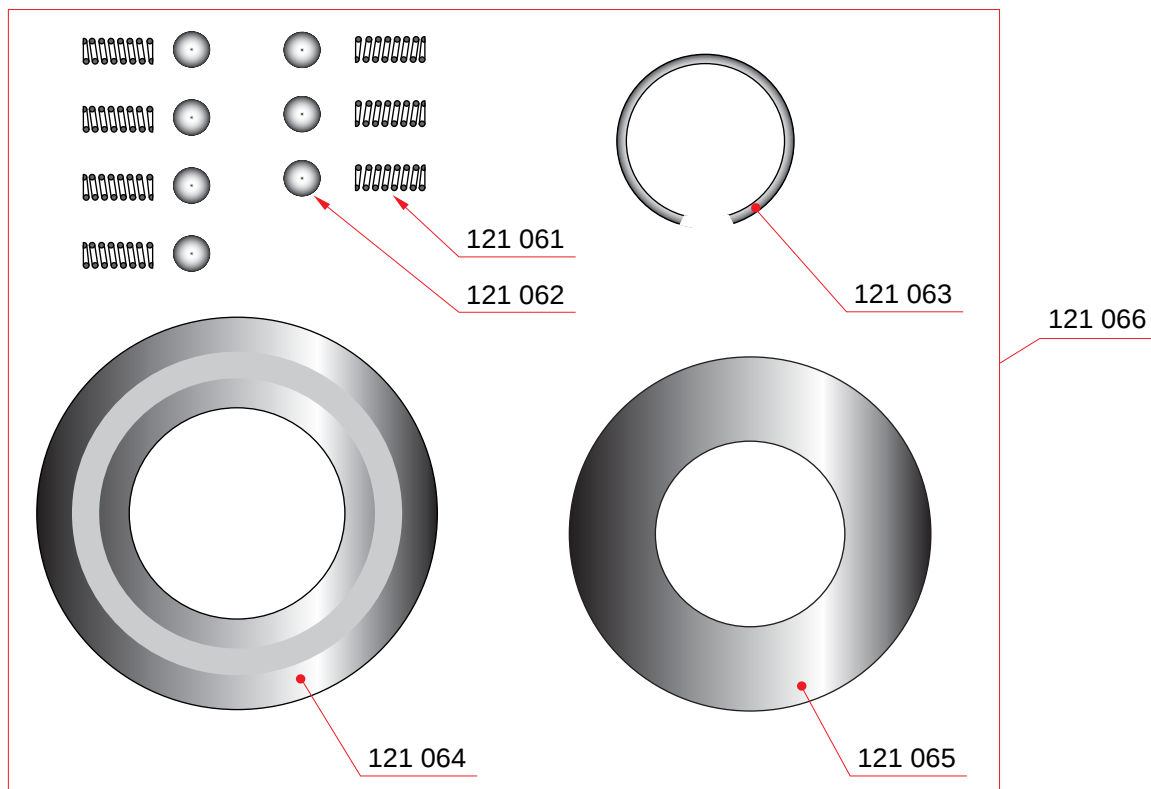


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
121 030	Rotocap	1	0.7				
121 066	Spare part set	1	0.7				
121 061	Spring	7	-				
121 062	Ball	7	-				
121 063	Retainer ring	1	-				
121 064	Ball bearer ring	1	0.6				
121 065	Disk	1	-				

NOTE! Code 121 030 includes the complete rotocap, code 121 066 includes the spare part set

Edition: B
 Page: 4(4)
 Updated: 30.09.1999

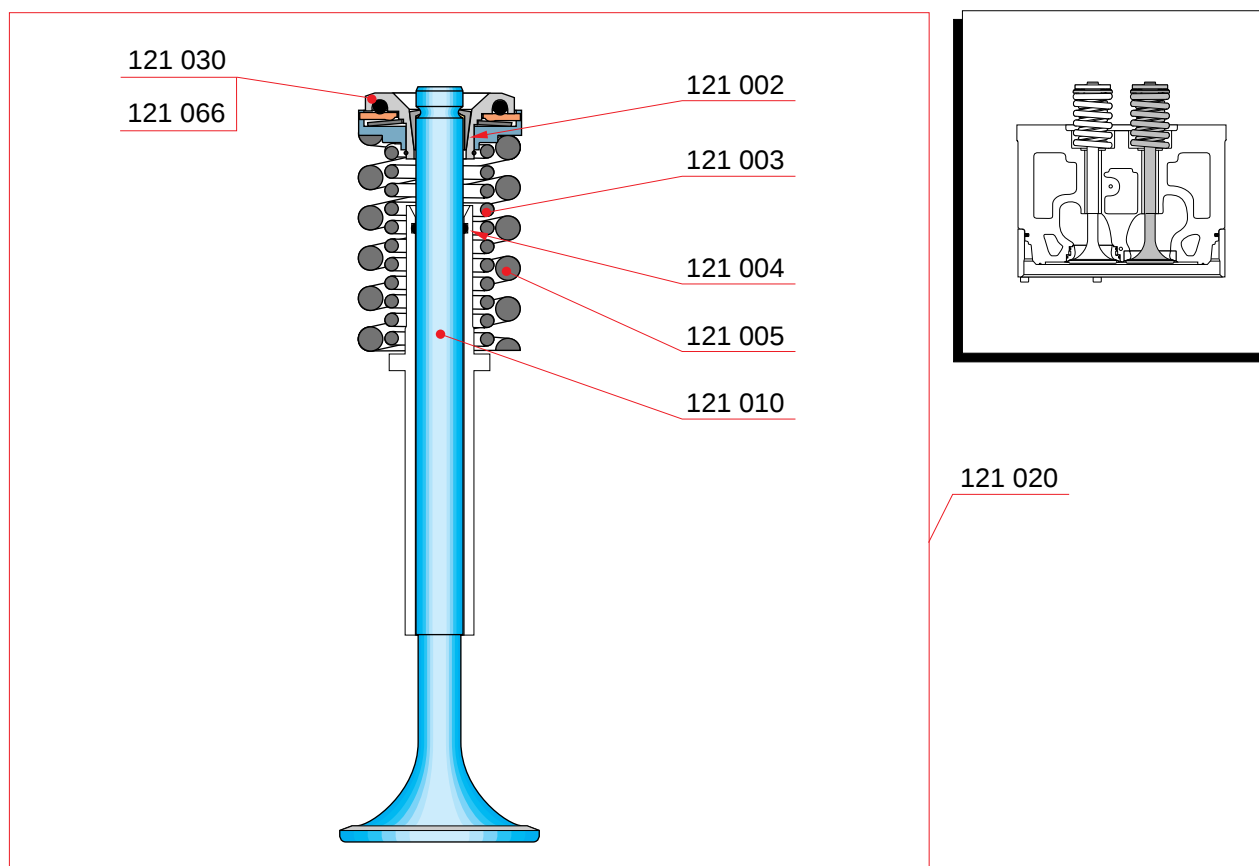
Exhaust valve with rotocap



Part No.	Description	Qty [Pcs]	Wt. [Kg]
121 066	Spare part set	1	0.7
121 061	Spring	7	-
121 062	Ball	7	-
121 063	Retainer ring	1	-
121 064	Ball bearer ring	1	0.6
121 065	Disk	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Inlet valve with rotocap

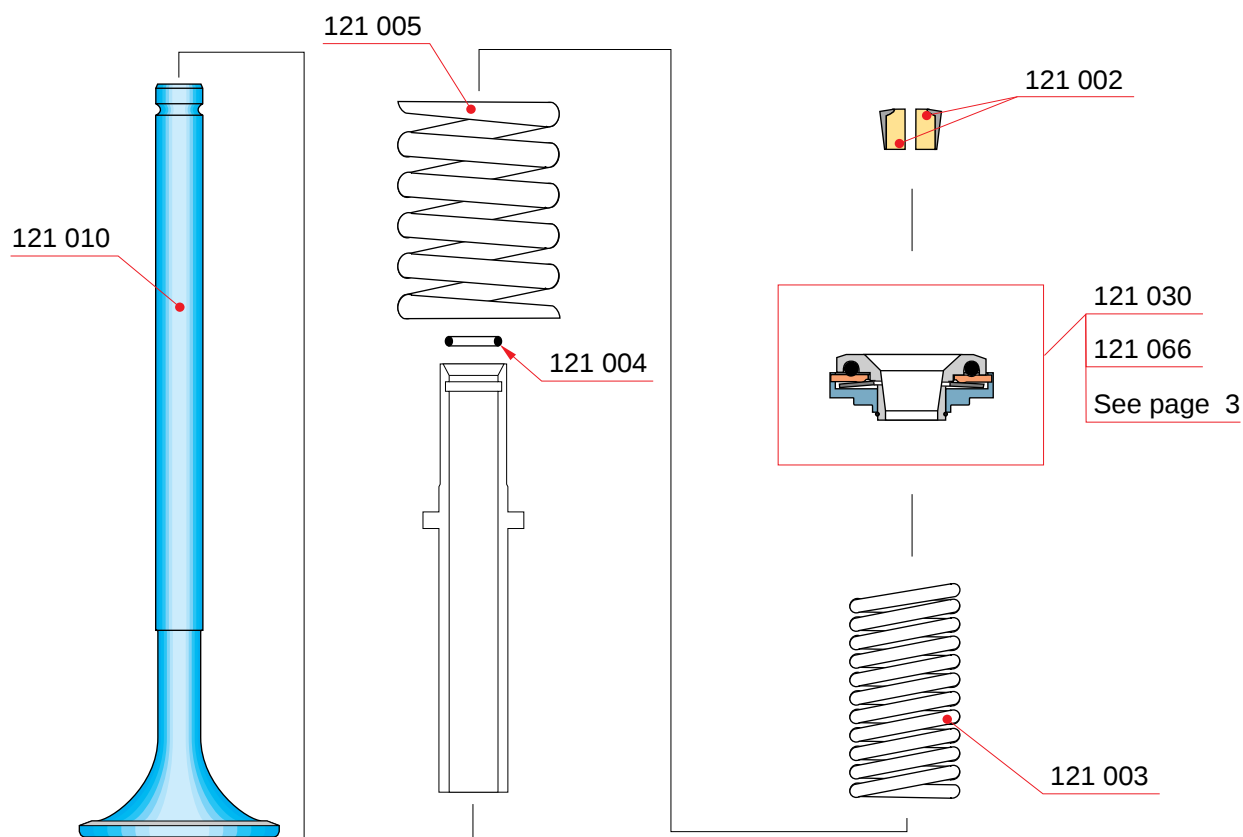


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
121 020	Inlet valve	1	-				
121 002	Valve cotter pair	1	-				
121 003	Valve spring, inner	1	0.6				
121 004	O-ring	1	-				
121 005	Valve spring, outer	1	1.3				
121 010	Valve	1	2.4				
121 030	Rotocap	1	0.7				
121 066	Spare part set	1	0.7				

NOTE! Code 121 030 includes the complete rotocap, code 121 066 includes the spare part set.

Edition: A
 Page: 2(4)
 Updated: 30.09.1999

Inlet valve with rotocap

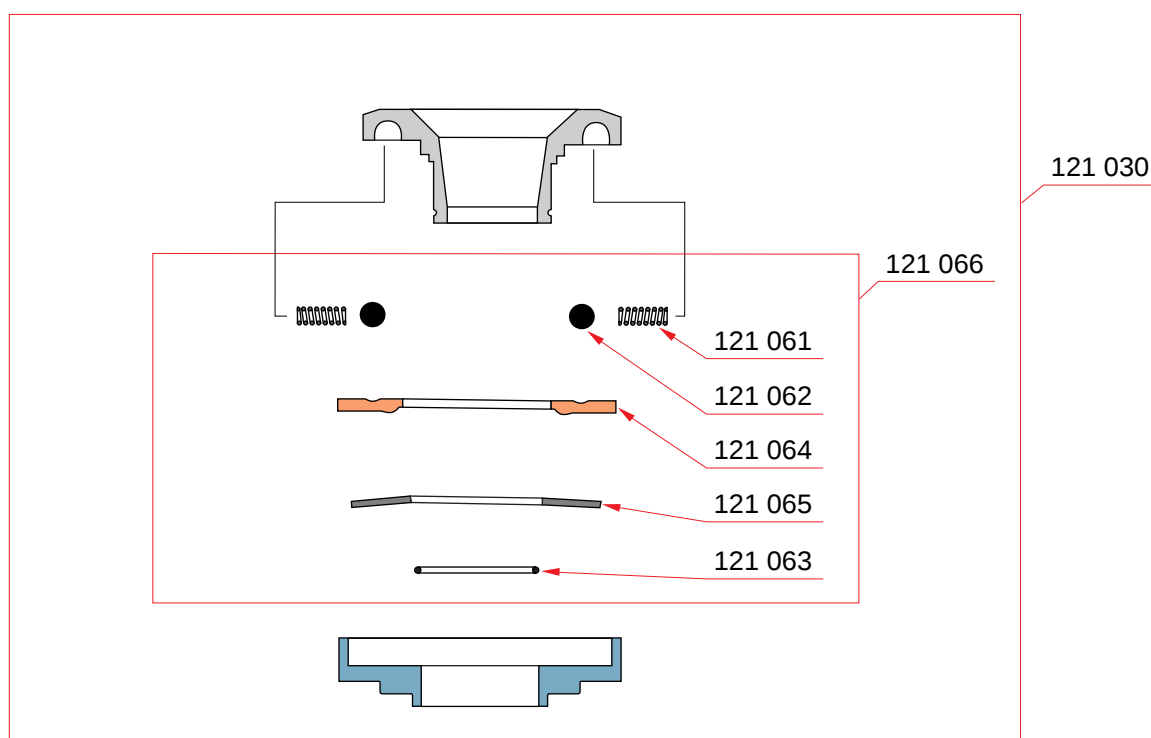


Part No.	Description	Qty [Pcs]	Wt. [Kg]
121 002	Valve cotter pair	1	-
121 003	Valve spring, inner	1	0.6
121 004	O-ring	1	-
121 005	Valve spring, outer	1	1.3
121 010	Valve	1	2.4
121 030	Rotocap	1	0.7
121 066	Spare part set	1	0.7

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

NOTE! Code 121 030 includes the complete rotocap, code 121 066 includes the spare part set.

Inlet valve with rotocap

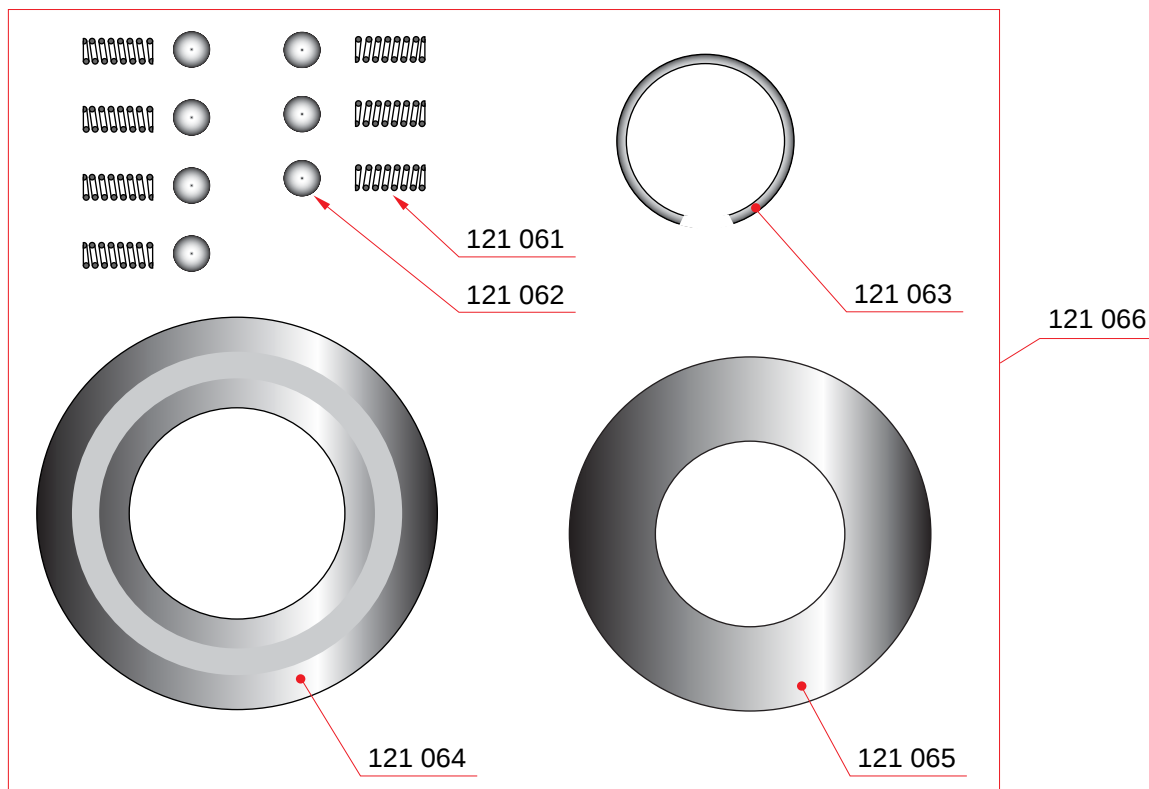


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
121 030	Rotocap	1	0.7				
121 066	Spare part set	1	0.7				
121 061	Spring	7	-				
121 062	Ball	7	-				
121 063	Retainer ring	1	-				
121 064	Ball bearer ring	1	0.6				
121 065	Disk	1	-				

NOTE! Code 121 030 includes the complete rotocap, code 121 066 includes the spare part set.

Edition: A
 Page: 4(4)
 Updated: 30.09.1999

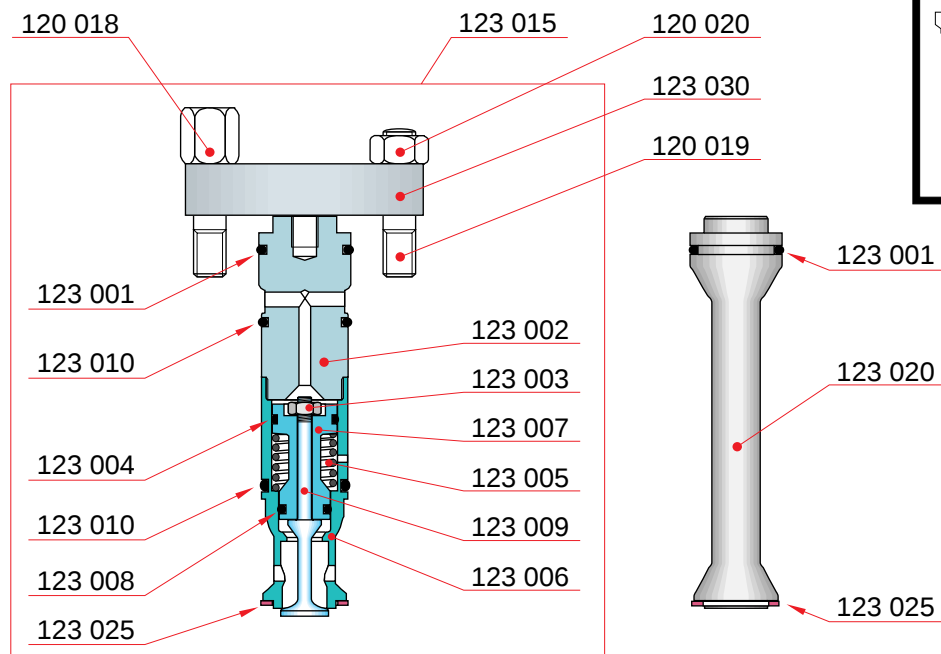
Inlet valve with rotocap



Part No.	Description	Qty [Pcs]	Wt. [Kg]
121 066	Spare part set	1	0.7
121 061	Spring	7	-
121 062	Ball	7	-
121 063	Retainer ring	1	-
121 064	Ball bearer ring	1	0.6
121 065	Disk	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Starting valve

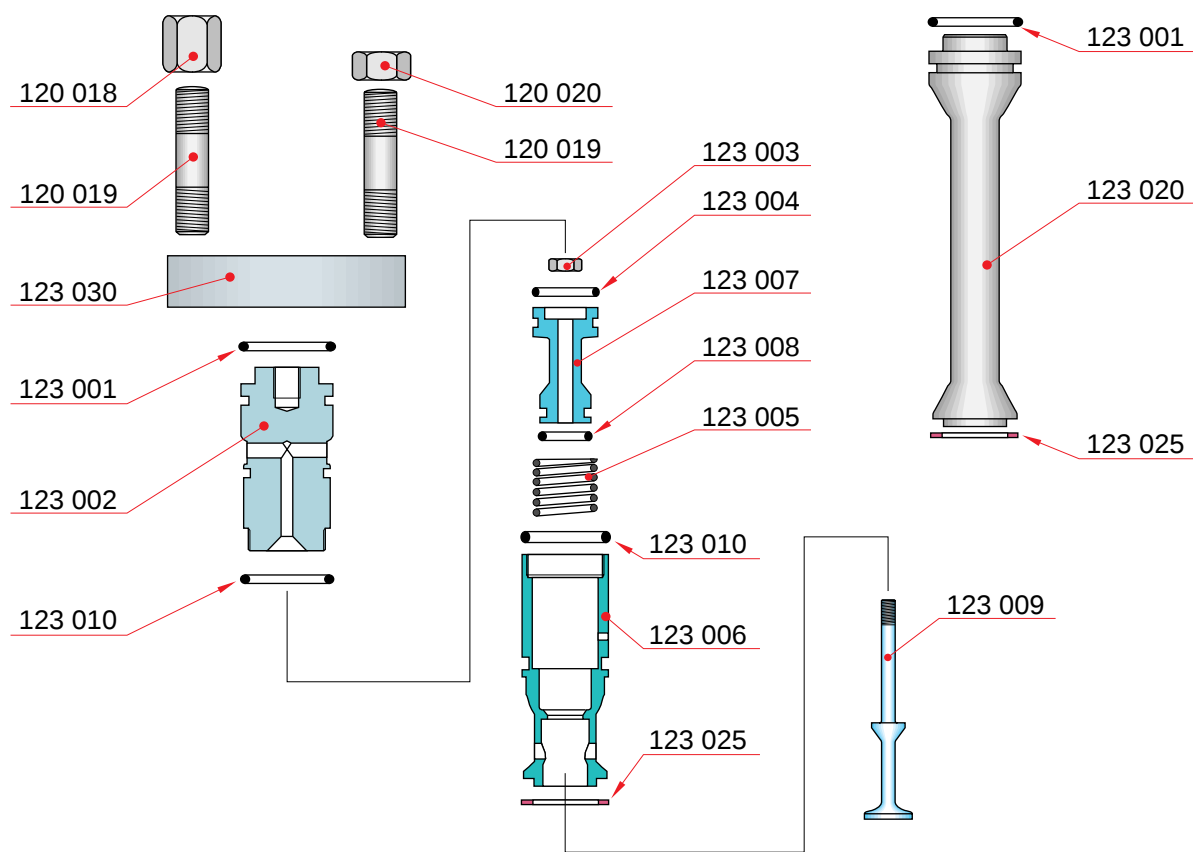


Part No.	Description	Qty [Pcs]	Wt. [Kg]
123 015	Starting valve	1	4.2
123 001	O-ring	1	-
123 002	Top piece	1	2.3
123 003	Nut	1	-
123 004	Slide O-ring	1	-
123 005	Spring	1	-
123 006	Housing	1	1.3
123 007	Piston	1	0.4
123 008	Slide O-ring	1	-
123 009	Valve spindle for starting valve	1	0.2
123 010	O-ring	2	-
123 025	Sealing ring	1	-
120 018	Nut	3	-
120 019	Screw	2	-
120 020	Nut	1	-
123 020	Dummy	1	-
123 030	Yoke	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Edition: B
 Page: 2(3)
 Updated: 28.06.1994

Starting valve

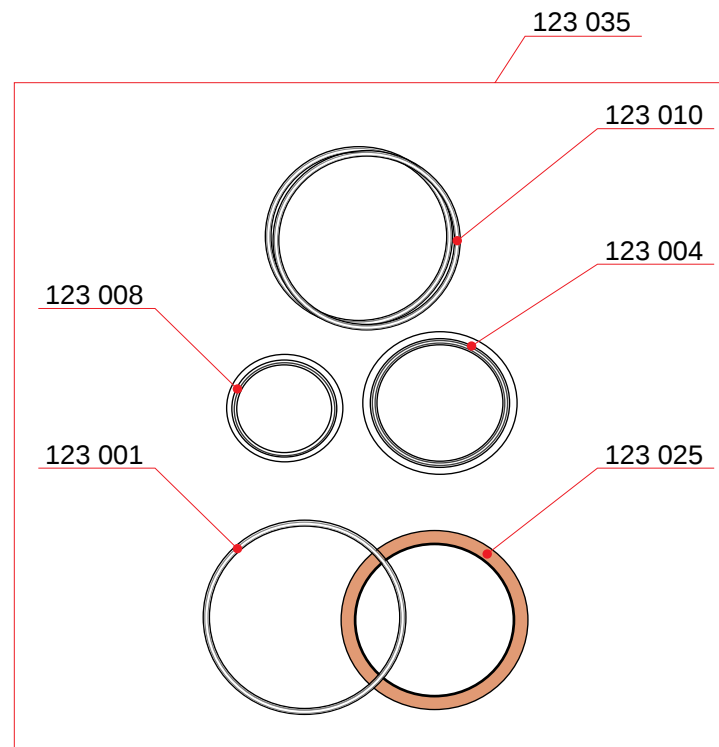


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 018	Nut		-				
120 019	Screw		-				
120 020	Nut		-				
123 001	O-ring	1	-				
123 002	Top piece	1	2.3				
123 003	Nut	1	-				
123 004	Slide O-ring	1	-				
123 005	Spring	1	-				
123 006	Housing	1	1.3				
123 007	Piston	1	0.4				
123 008	Slide O-ring	1	-				
123 009	Valve spindle for starting valve	1	0.2				
123 010	O-ring	2	-				
123 020	Dummy		-				
123 025	Sealing ring	1	-				
123 030	Yoke		-				

NOTE! (for engines with starting motor and
for B-bank in V-engines).

NOTE! 123 020 dummy only when cylinder
head without starting valve

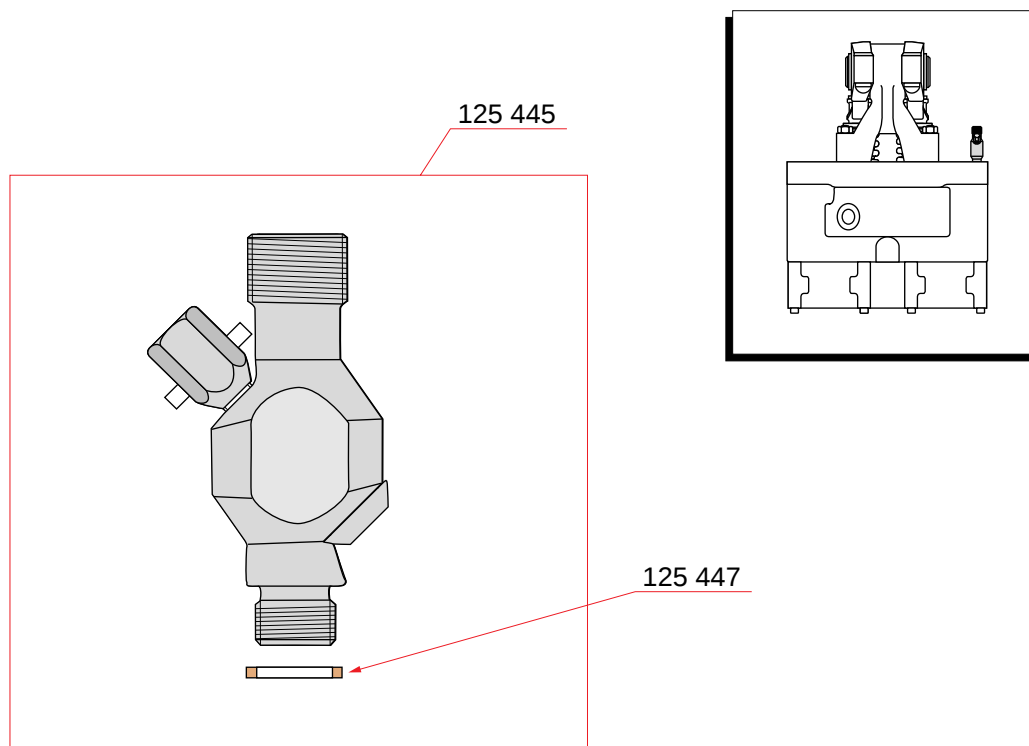
Starting valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
123 035	Sealing set	1	-				
123 001	O-ring	1	-				
123 004	Slide O-ring	1	-				
123 008	Slide O-ring	1	-				
123 010	O-ring	2	-				
123 025	Sealing ring	1	-				

This page is intentionally left blank.

Indicator valve

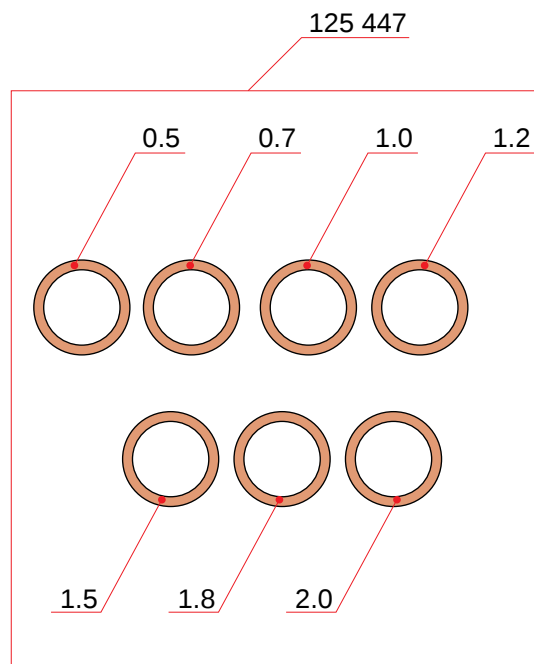


Part No.	Description	Qty [Pcs]	Wt. [Kg]
125 445	Indicator valve, compl.	1	-
125 447	Selection of sealings	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

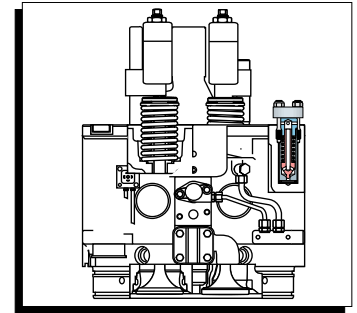
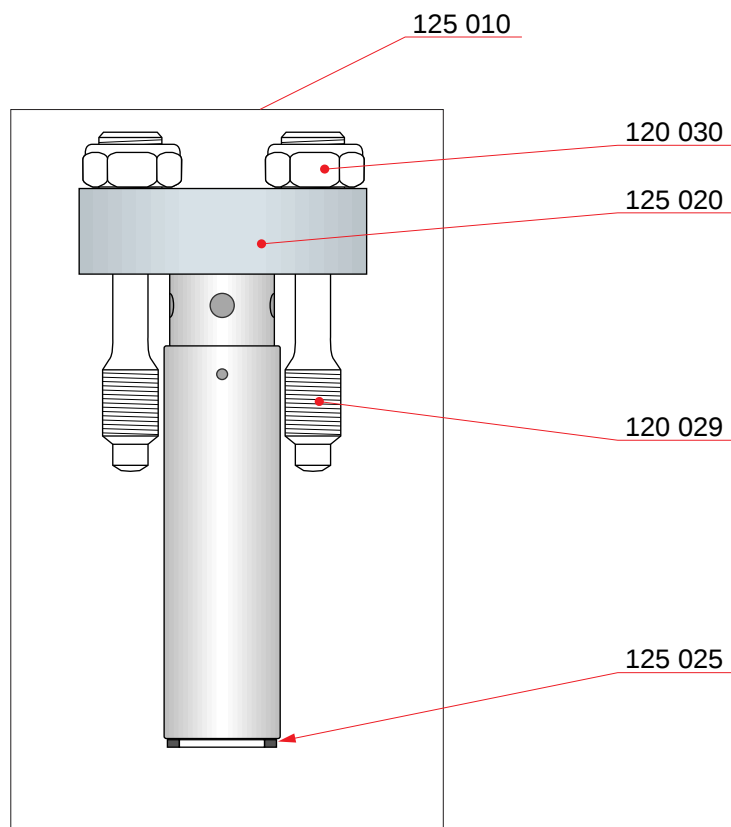
Edition: B
Page: 2(2)
Updated: 02.05.2003

Indicator valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
125 447	Selection of sealings	-					

Cylinder head safety valve

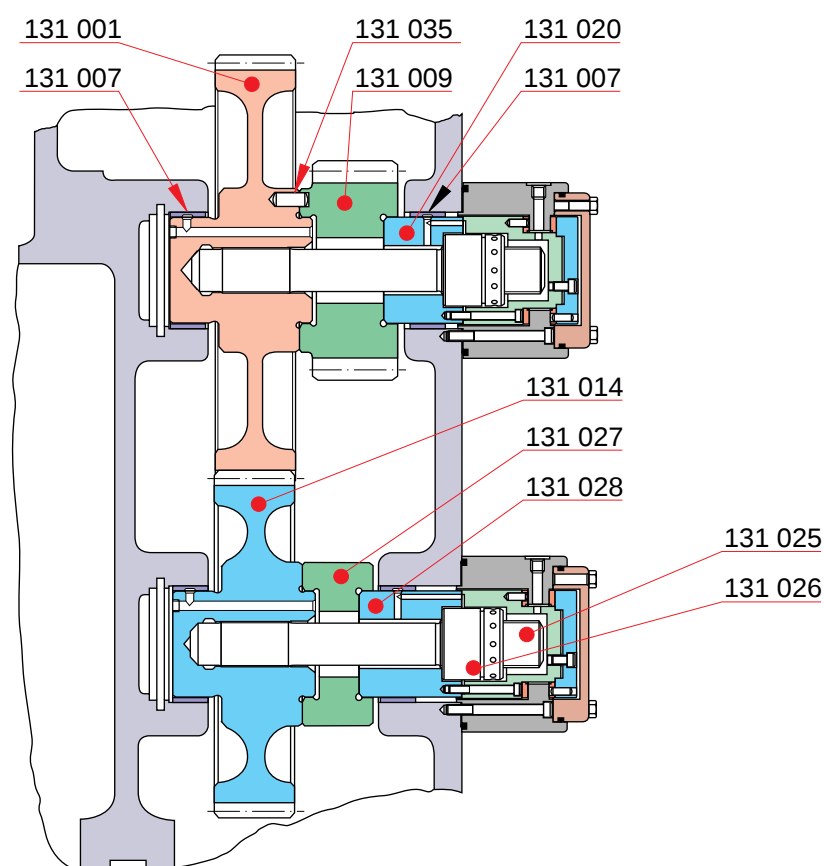


Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 029	Screw	2	-
120 030	Nut	2	-
125 010	Relief valve	1	1.2
125 020	Yoke	1	-
125 025	Sealing ring	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Intermediate gear for camshaft drive



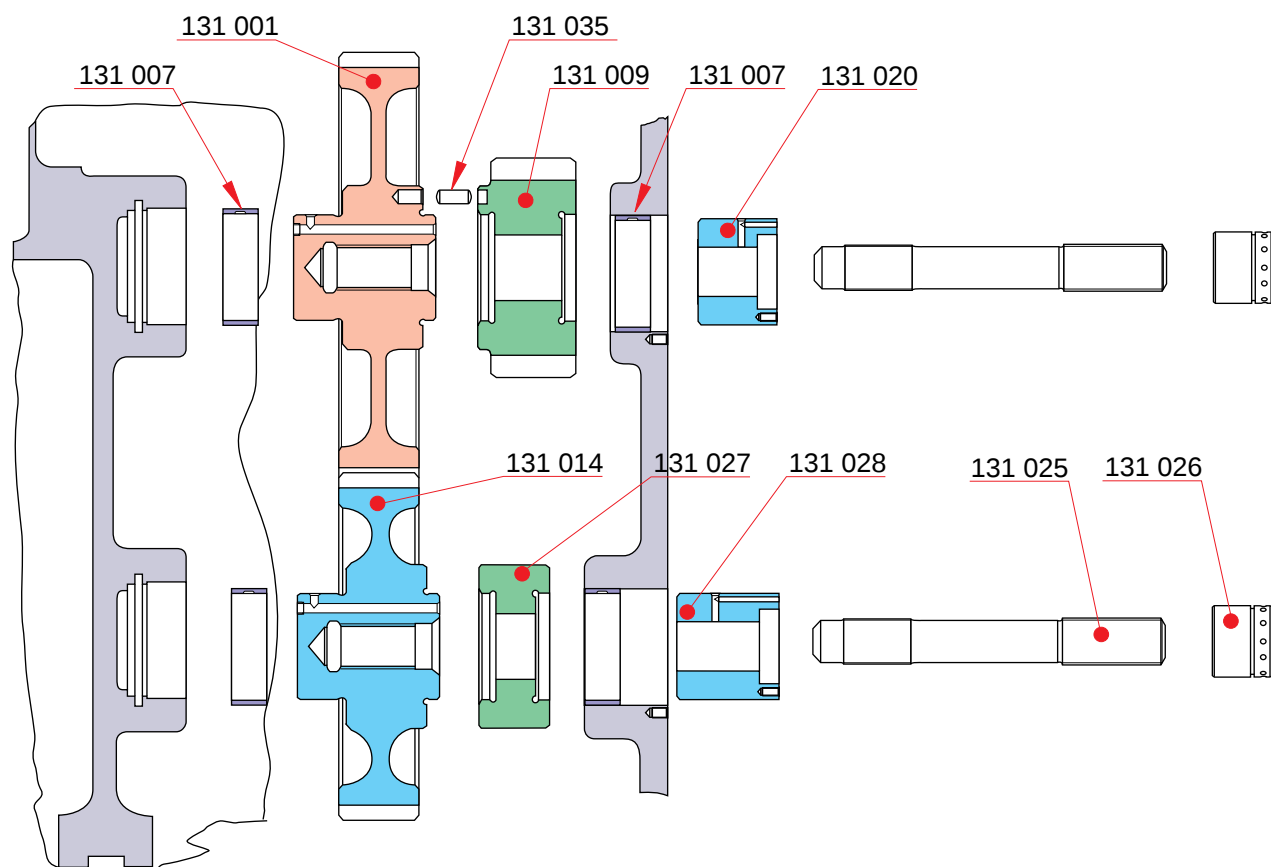
Part No.	Description	Qty [Pcs]	Wt. [Kg]
131 001	Large intermediate gear	*	65.0
131 035	Pin	1	-
131 007	Bearing bush	*	-
131 009	Small intermediate gear	*	22.0
131 014	Intermediate gear	1	48.0
131 020	Shaft	*	5.3
131 025	Screw	*	5.8
131 026	Round nut	*	1.5
131 027	Distance ring	1	12.2
131 028	Shaft	1	6.4

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

NOTE! * See page 5

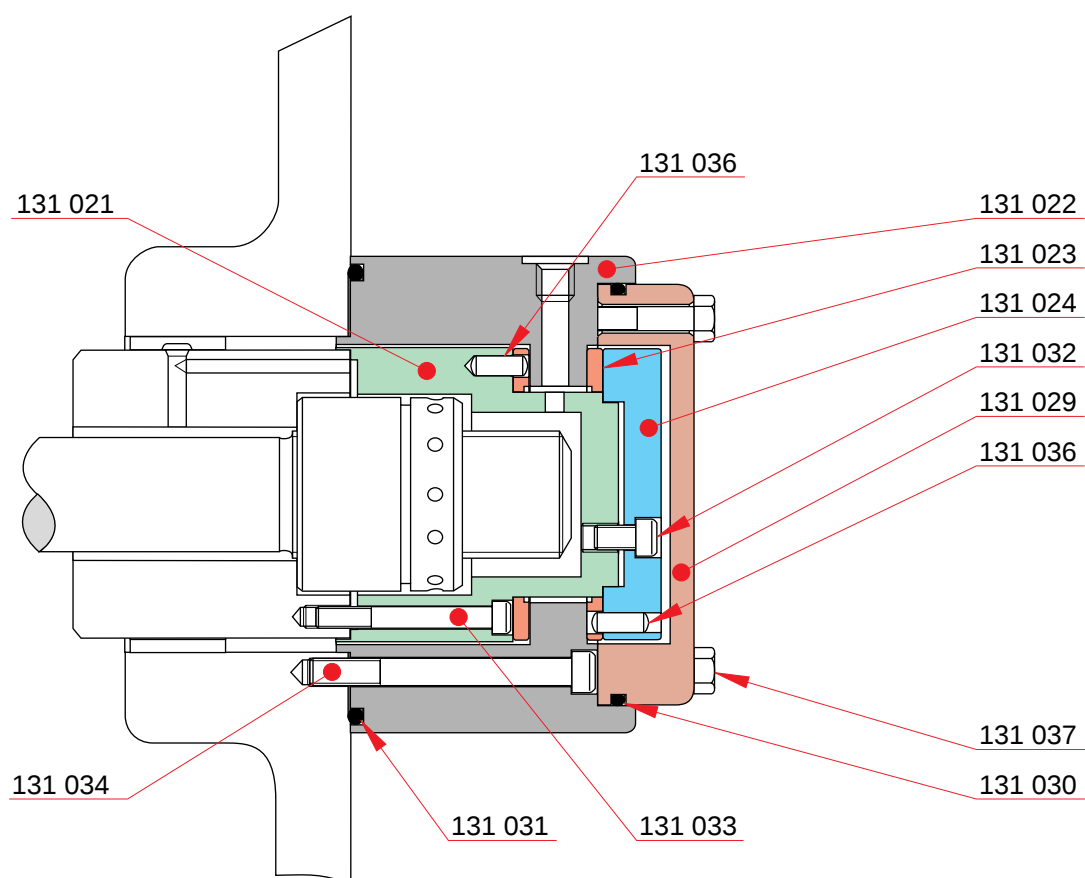
Edition: C
Page: 2(5)
Updated: 14.11.1996

Intermediate gear for camshaft drive



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

Intermediate gear for camshaft drive



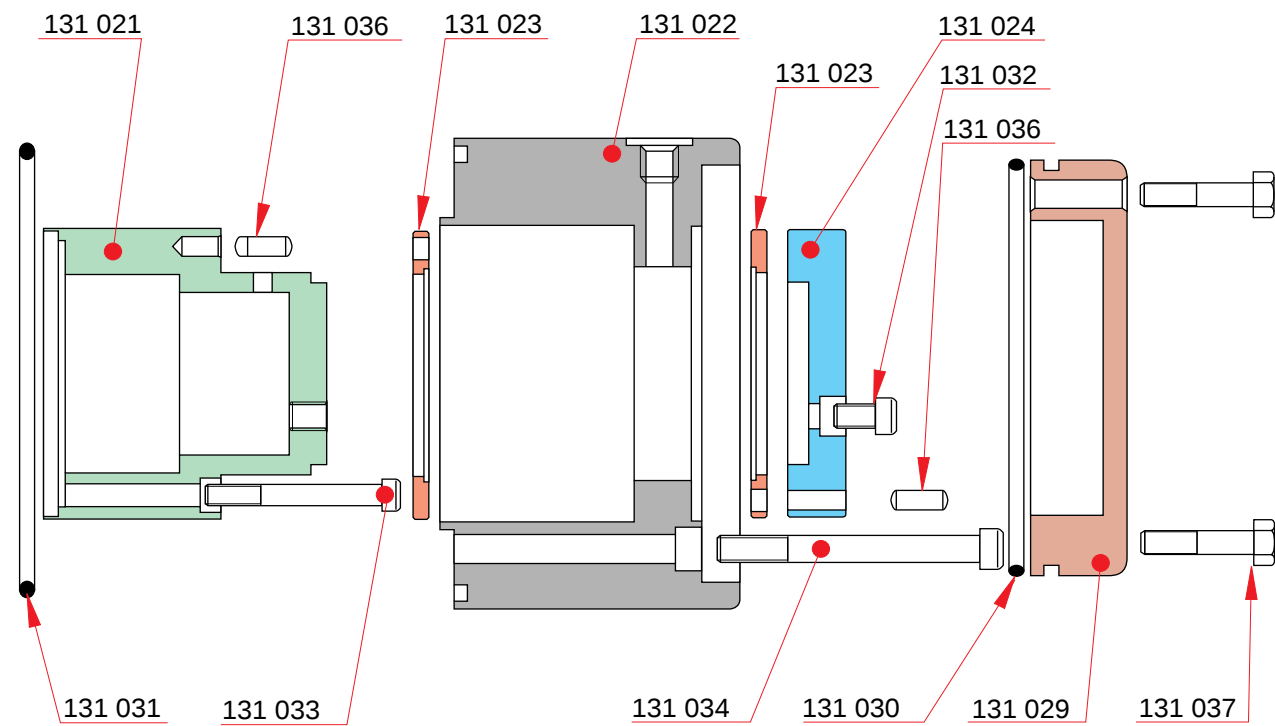
Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
131 021	Extension shaft	*	4.0				
131 022	Housing	*	10.0				
131 023	Thrust bearing	*	0.4				
131 024	Shaft plate	*	0.3				
131 029	Cover	*	3.2				
131 030	O-ring	*	-				
131 031	O-ring	*	-				
131 032	Screw	*	-				
131 033	Screw	*	-				
131 034	Screw	*	0.1				
131 036	Pin	*	-				
131 037	Screw	*	-				

NOTE! * See page 5

Edition: C

Page: 4(5)

Updated: 14.11.1996

Intermediate gear for camshaft drive

Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

Intermediate gear for camshaft drive

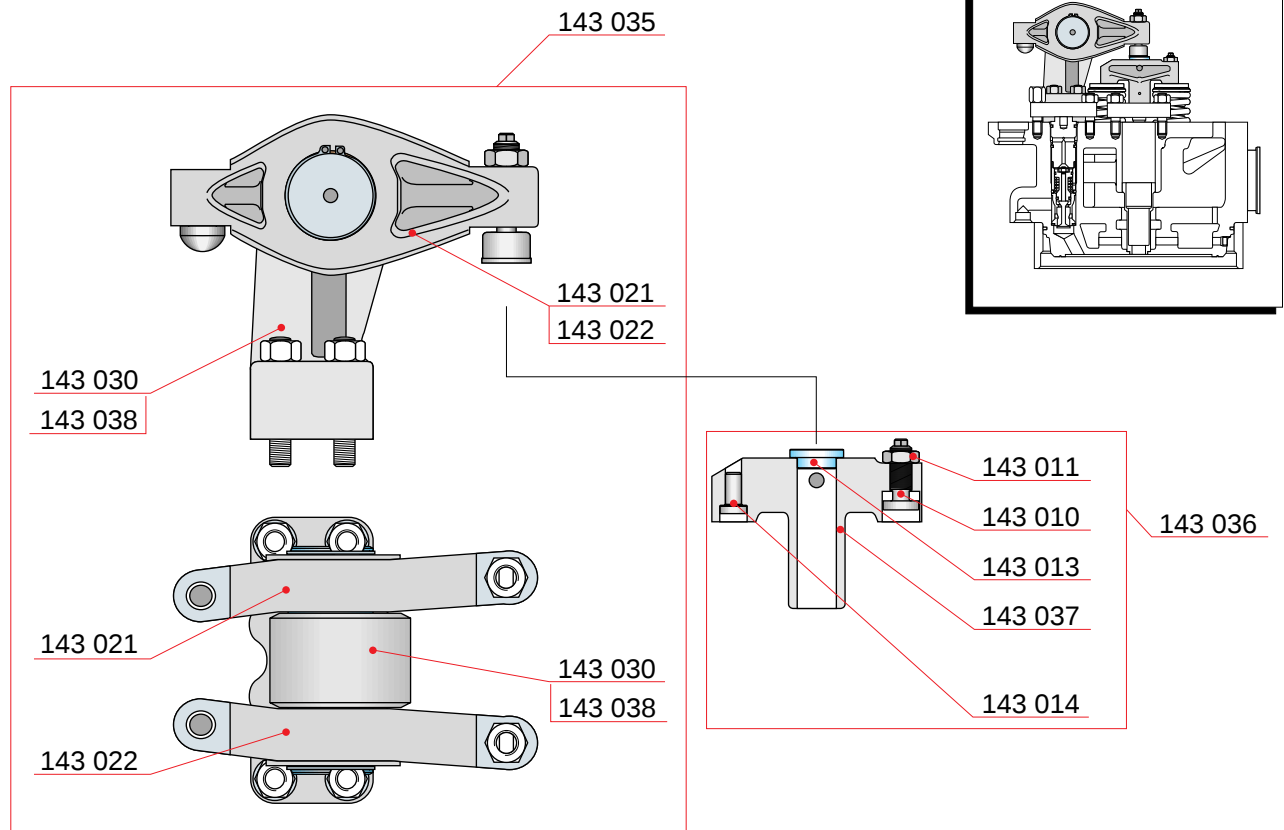
Quantity according to number of cylinders

Part No	Pieces	
	R32	V32
131 001	1	2
131 007	4	6
131 009	1	2
131 020	1	2
131 021	2	3
131 022	2	3
131 023	4	6
131 024	2	3
131 025	2	3
131 026	2	3
131 029	2	3
131 030	2	3
131 031	2	3
131 032	8	12
131 033	16	24
131 034	16	24
131 036	4	6
131 037	8	12

Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

This page is intentionally left blank.

Rocker arms and bearing bracket

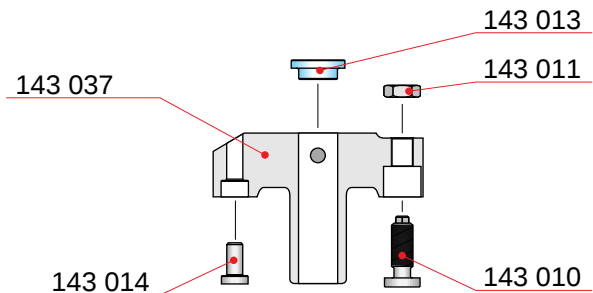
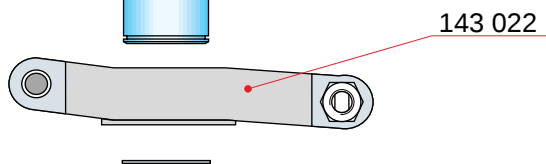
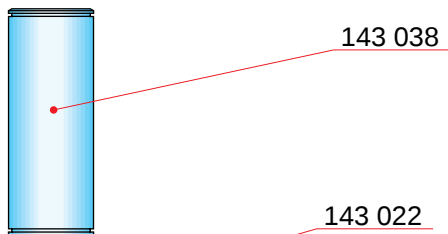
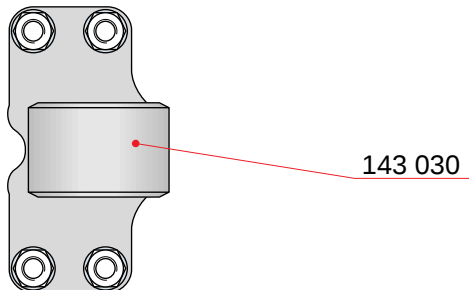
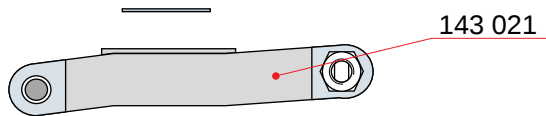


Part No.	Description	Qty [Pcs]	Wt. [Kg]
143 035	Rocker arms with bracket	1	34.0
143 021	Rocker arm for exhaust valve	1	6.4
143 022	Rocker arm for inlet valve	1	6.4
143 030	Bearing bracket	1	22.0
143 038	Shaft	1	7.7

Part No.	Description	Qty [Pcs]	Wt. [Kg]
143 036	Valve yoke	2	3.5
143 010	Adjustable pin	1	-
143 011	Nut	1	-
143 013	Thrust piece	1	0.1
143 014	Pin	1	0.2
143 037	Valve yoke	1	-

Edition: C
Page: 2(4)
Updated: 22.10.1997

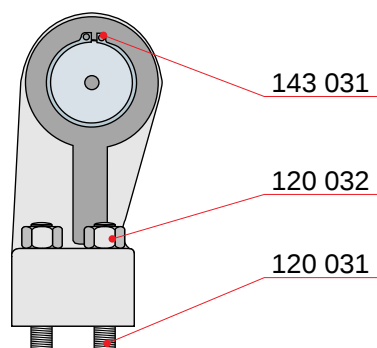
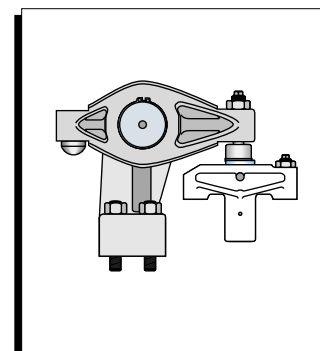
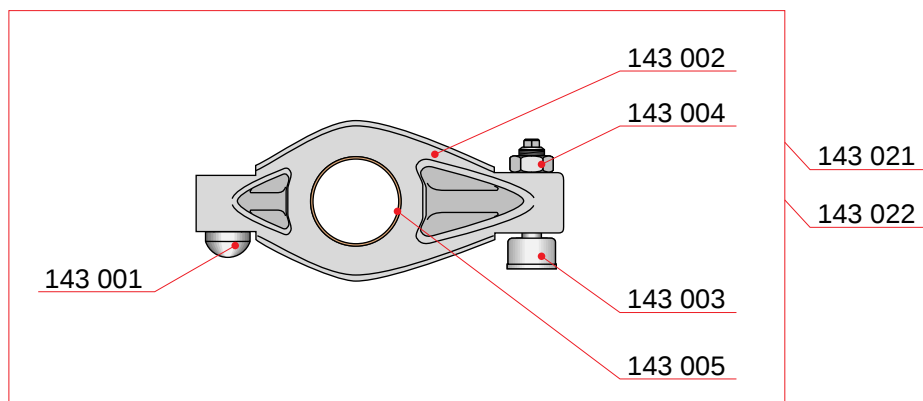
Rocker arms and bearing bracket



Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

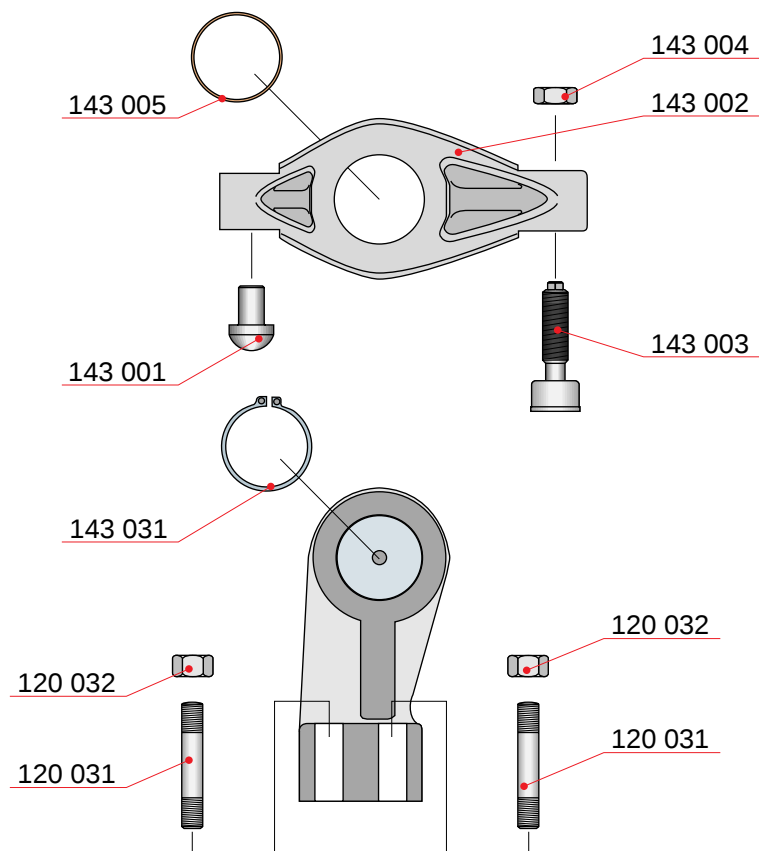
Rocker arms and bearing bracket



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 031	Screw	4	-				
120 032	Nut	4	-				
143 021	Rocker arm for exhaust valve	1	6.4				
143 022	Rocker arm for inlet valve	1	6.4				
143 001	Pin	1	0.2				
143 002	Rocker arm	1	5.1				
143 003	Screw	1	-				
143 004	Nut	1	-				
143 005	Bearing bush	1	0.7				
143 031	Retainer ring	2	-				

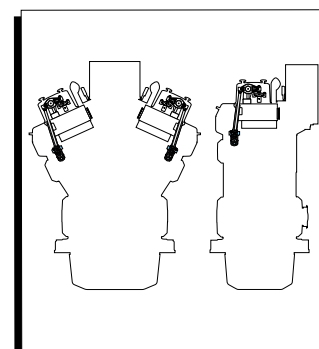
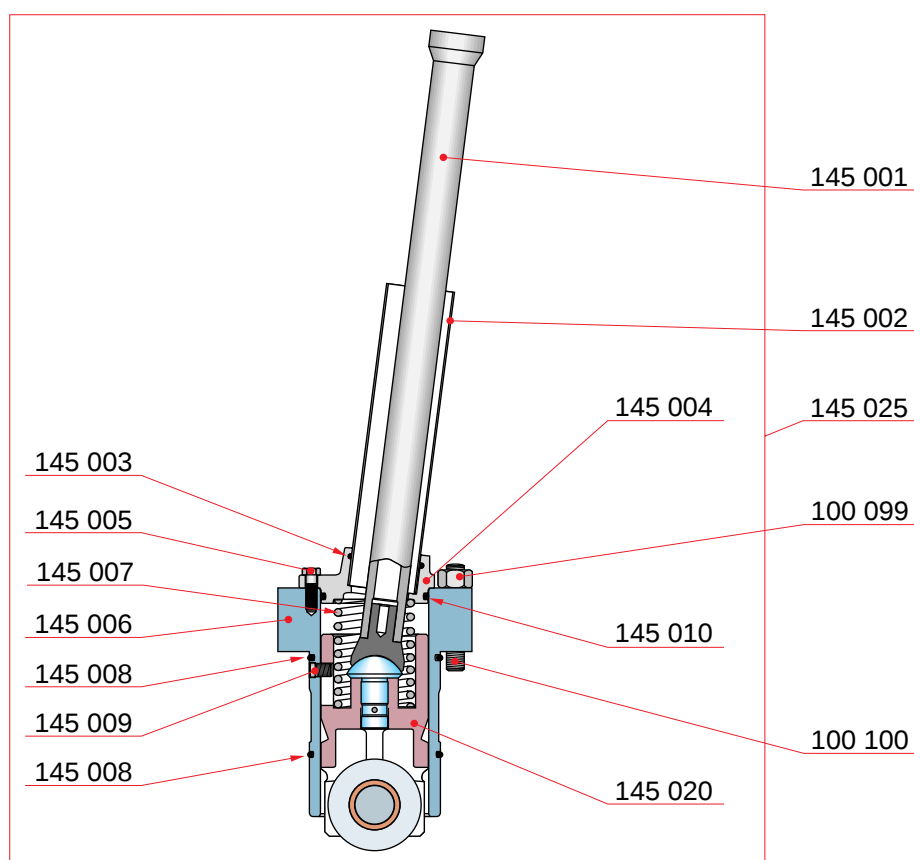
Edition: C
Page: 4(4)
Updated: 22.10.1997

Rocker arms and bearing bracket



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

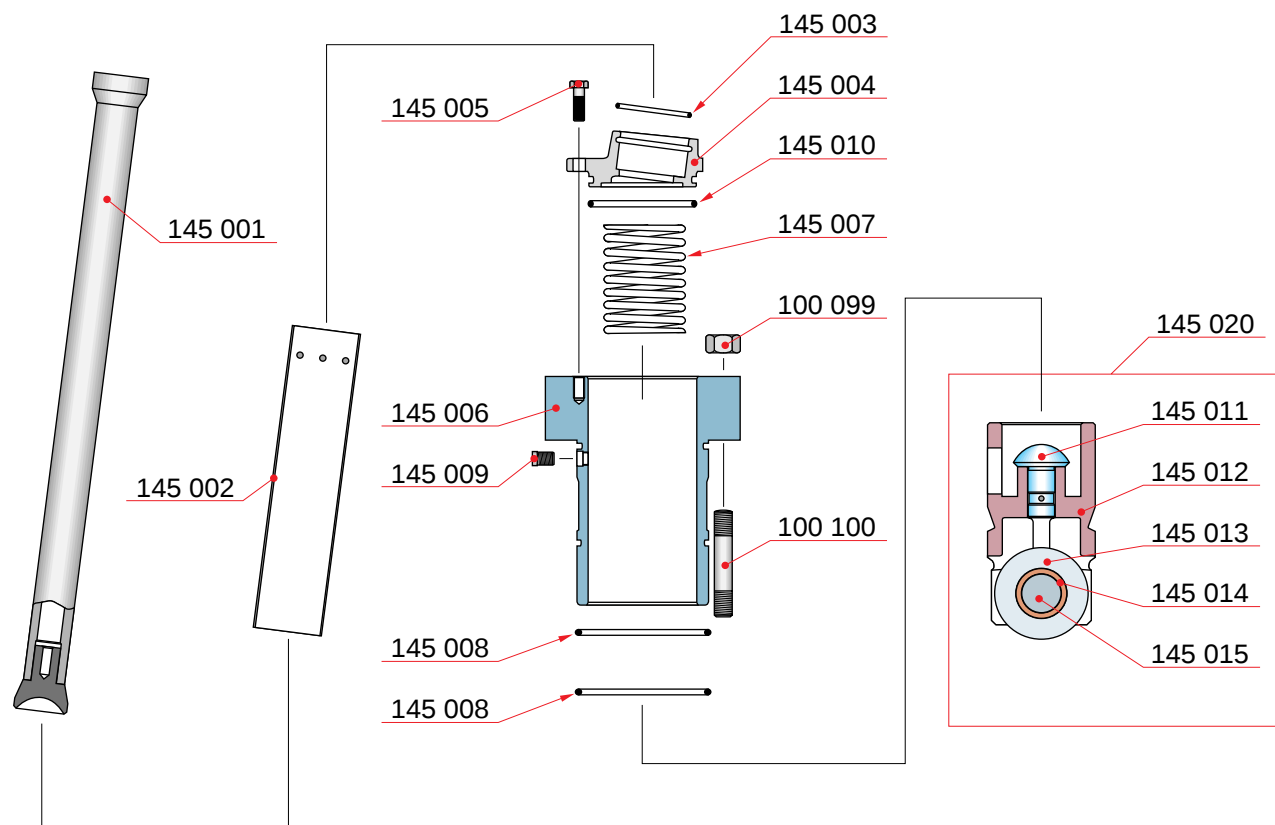
Valve tappet with guide block



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 099	Nut	4	-				
100 100	Screw	4	-				
145 001	Push rod	1	-				
145 002	Protecting pipe	1	-				
145 025	Valve tappet with guide block	1	-				
145 003	O-ring	1	-				
145 004	Cover	1	0.3				
145 005	Screw	4	-				
145 006	Guide block	1	5.7				
145 007	Spring	1	0.3				
145 008	O-ring	2	-				
145 009	Guiding pin	1	-				
145 010	O-ring	1	-				
145 020	Valve tappet	1	3.9				

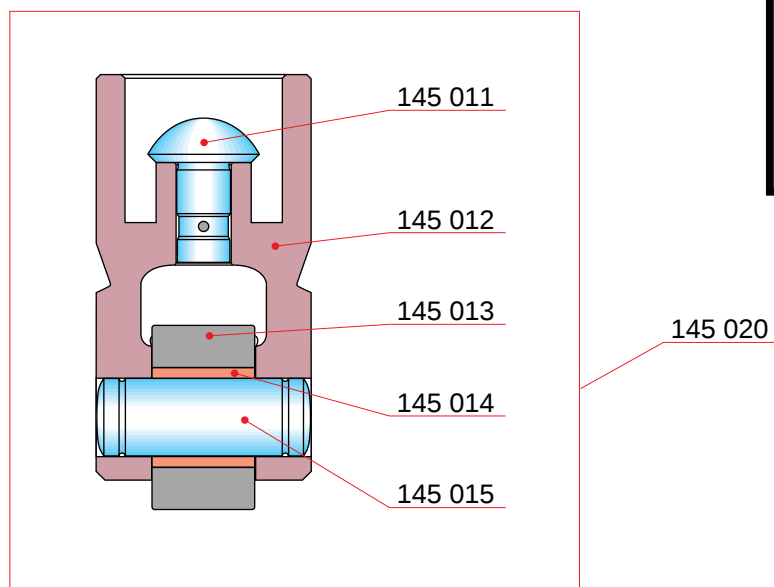
Edition: C
 Page: 2(5)
 Updated: 01.12.1997

Valve tappet with guide block



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 099	Nut	4	-	145 011	Pin	1	0.2
100 100	Screw	4	-	145 012	Valve tappet	1	2.3
145 001	Push rod	1	-	145 013	Tappet roller	1	1.2
145 002	Protecting pipe	1	-	145 014	Bearing bush	1	-
145 003	O-ring	1	-	145 015	Roller pin	1	0.4
145 004	Cover	1	0.3	145 020	Valve tappet	1	3.9
145 005	Screw	4	-				
145 006	Guide block	1	5.7				
145 007	Spring	1	0.3				
145 008	O-ring	2	-				
145 009	Guiding pin	1	-				
145 010	O-ring	1	-				

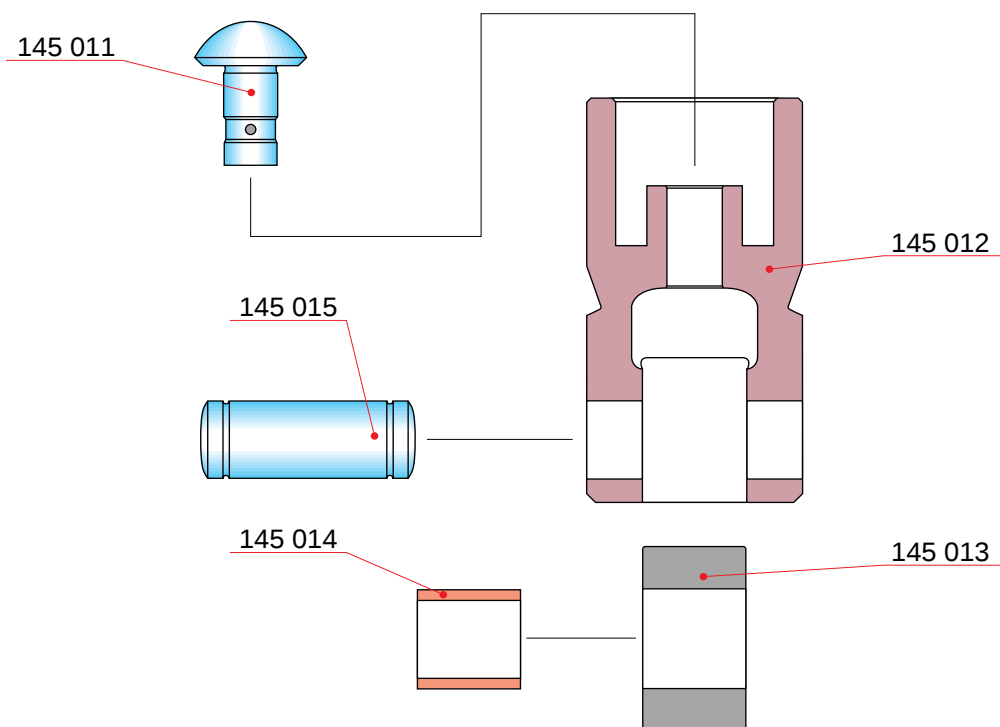
Valve tappet with guide block



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
145 020	Valve tappet	1	3.9				
145 011	Pin	1	0.2				
145 012	Valve tappet	1	2.3				
145 013	Tappet roller	1	1.2				
145 014	Bearing bush	1	-				
145 015	Roller pin	1	0.4				

Edition: C
 Page: 4(5)
 Updated: 01.12.1997

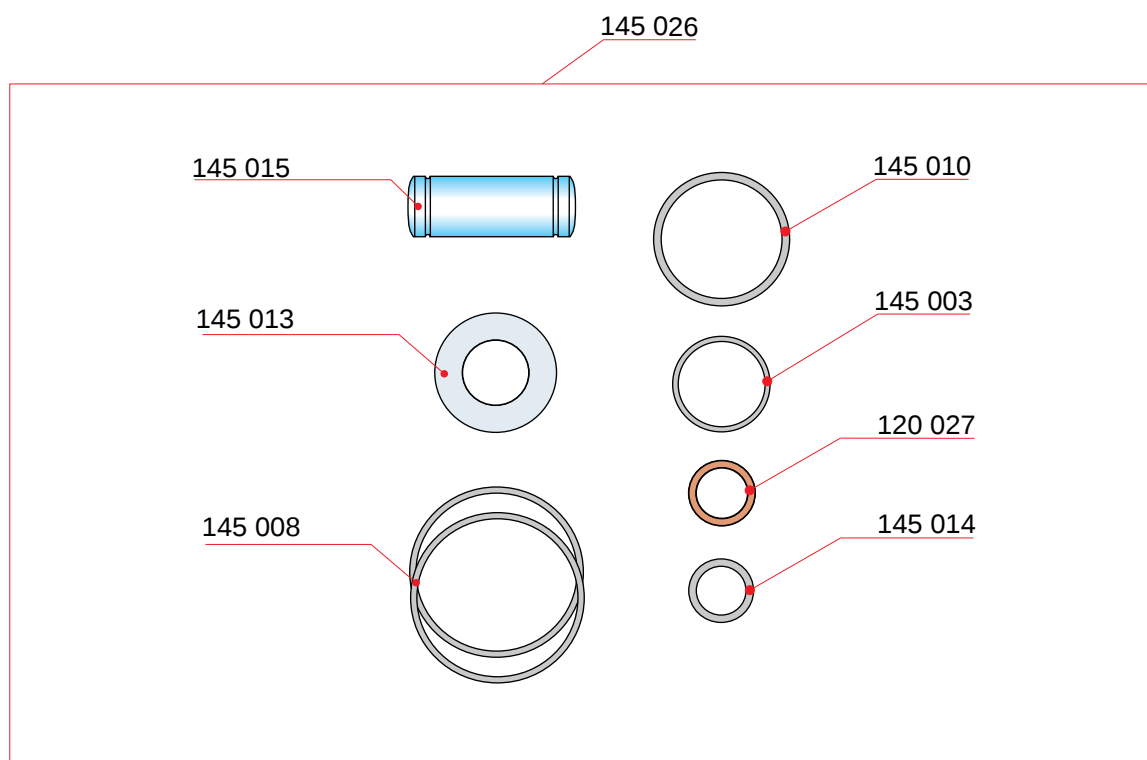
Valve tappet with guide block



Part No.	Description	Qty [Pcs]	Wt. [Kg]
145 011	Pin	1	0.2
145 012	Valve tappet	1	2.3
145 013	Tappet roller	1	1.2
145 014	Bearing bush	1	-
145 015	Roller pin	1	0.4

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

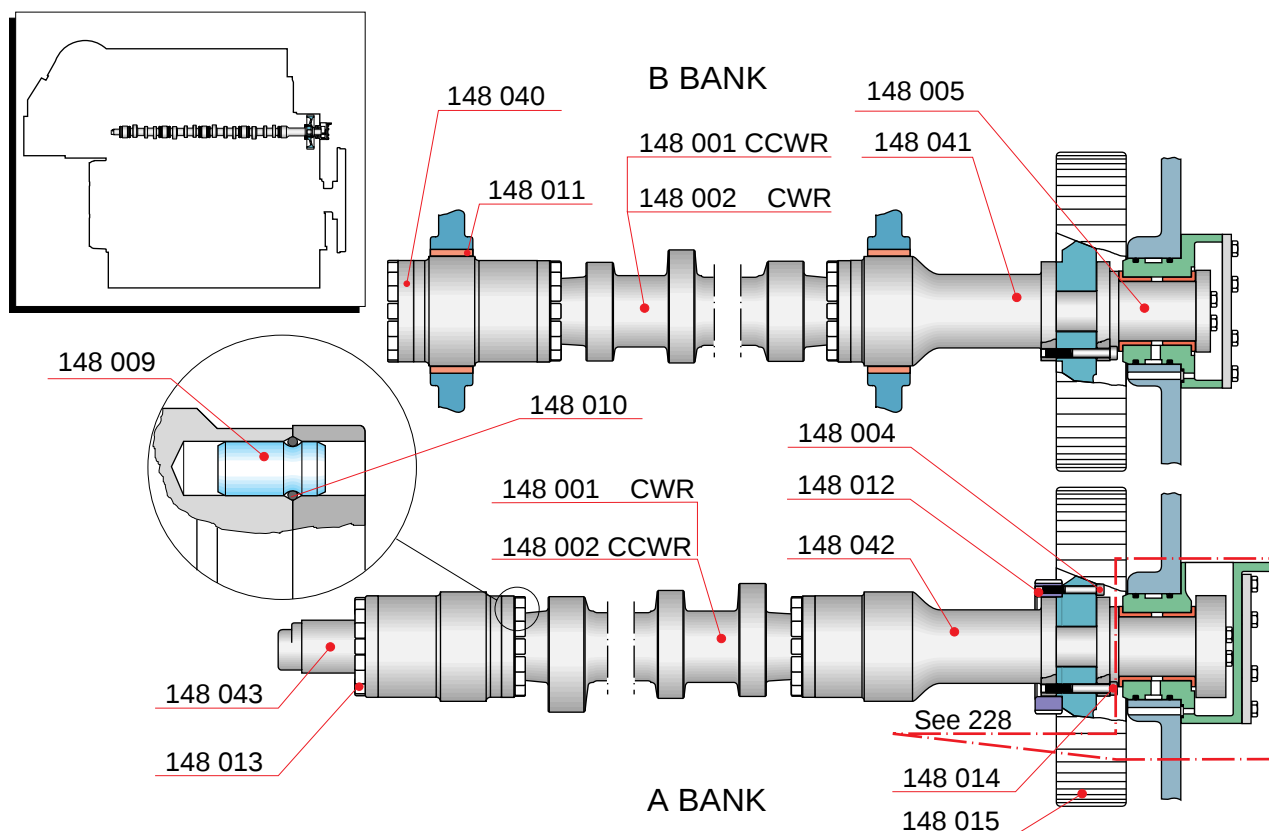
Valve tappet with guide block



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
145 026	Spare part kit	1	1.2				
120 027	O-ring	1	-				
145 003	O-ring	1	-				
145 008	O-ring	2	-				
145 010	O-ring	1	-				
145 013	Tappet roller	1	1.2				
145 014	Bearing bush	1	-				
145 015	Roller pin	1	0.4				

This page is intentionally left blank.

Camshaft V32

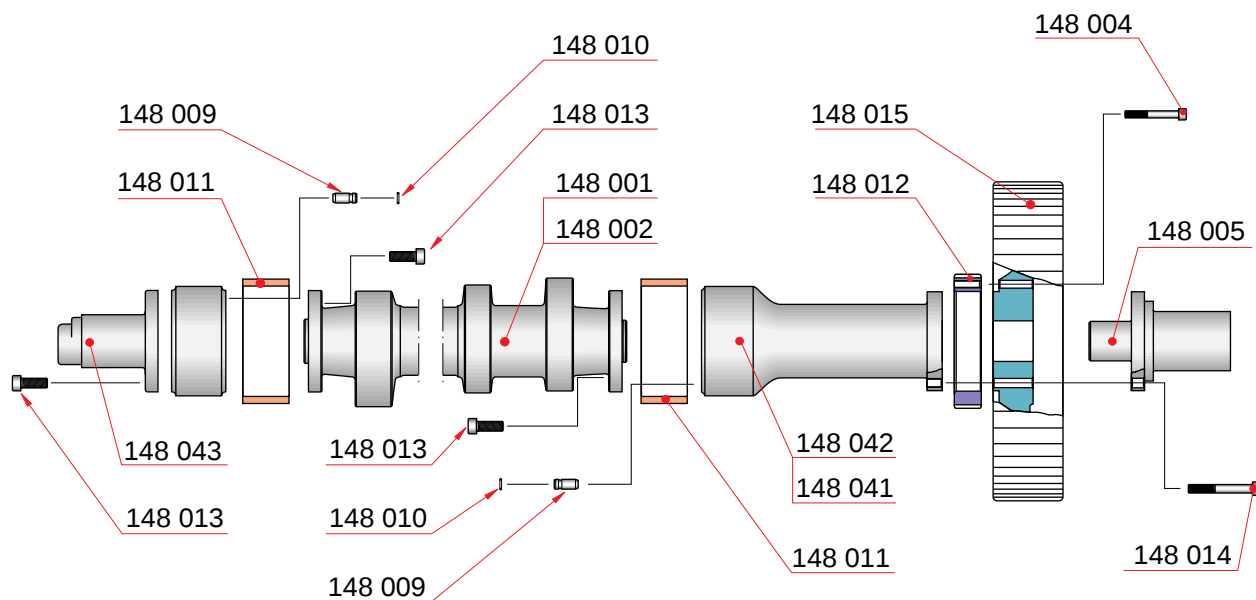


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
148 001	Camshaft piece (1)	*	44.0				
148 002	Camshaft piece (2)	*	46.0				
148 004	Screw	6	-				
148 005	Extension	2	6.8				
148 009	Guiding pin	*	-				
148 010	Spring ring	*	-				
148 011	Camshaft bearing bush	*	-				
148 012	Driving gear wheel for governor	1	-				
148 013	Screw	*	-				
148 014	Screw	30	-				
148 015	Drive gear wheel	2	38.0				
148 040	Flange	1	2.8				
148 041	Extension	1	31.1				
148 042	Extension	1	38.0				
148 043	Extension for starting cam	1	7.1				

NOTE! * See page 4.

Edition: A
 Page: 2(4)
 Updated: 27.05.2005

Camshaft V32

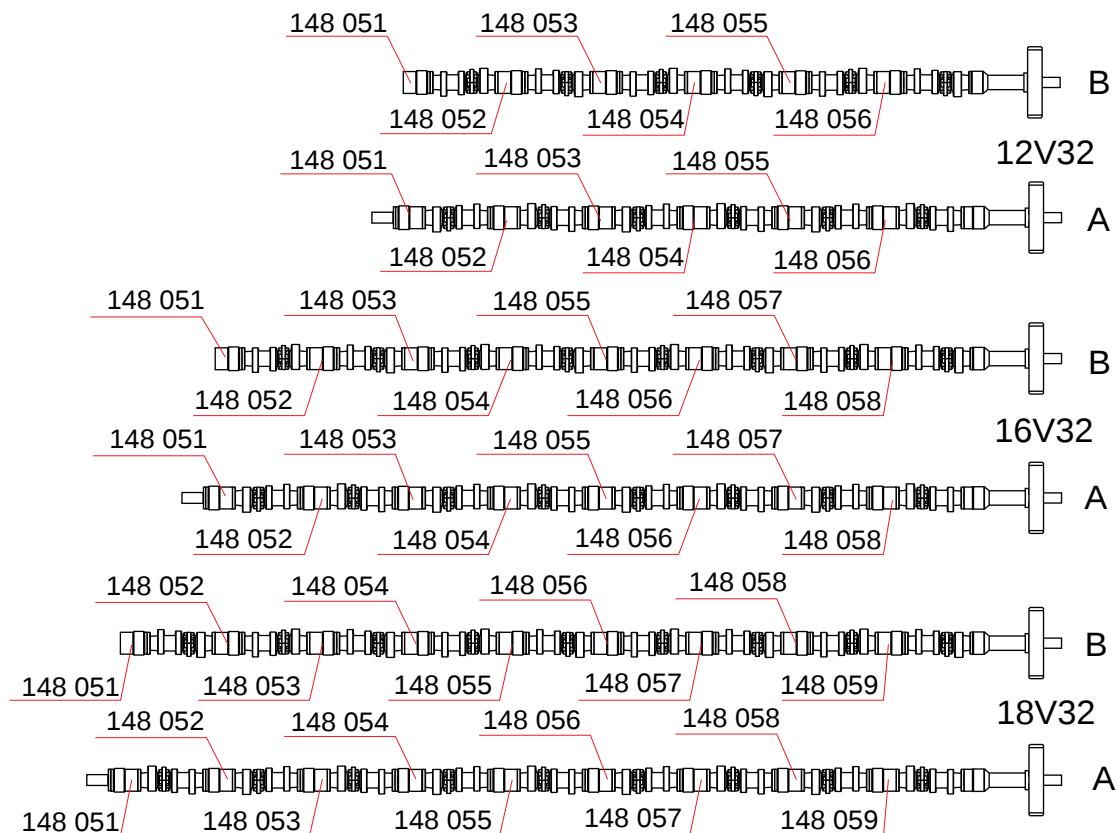


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

NOTE! (1) A-Bank 148 001 cw. rot., 148 002
ccw. rot.

NOTE! (2) B-Bank 148 002 cw. rot., 148 001
ccw. rot.

Camshaft V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
148 051	Bearing journal	2	19.2				
148 052	Bearing journal	2	19.2				
148 053	Bearing journal	2	19.2				
148 054	Bearing journal	2	19.2				
148 055	Bearing journal	2	19.2				
148 056	Bearing journal	2	19.2				
148 057	Bearing journal	2	19.2				
148 058	Bearing journal	2	19.2				
148 059	Bearing journal	2	19.2				

Edition: A
Page: 4(4)
Updated: 27.05.2005

Camshaft V32

Quantity according to number of cylinders

Part No	Pieces		
	12V32	16V32	18V32
148 001	6	8	9
148 002	6	8	9
148 009	28	36	40
148 010	28	36	40
148 011	14	18	20
148 013	425	561	629

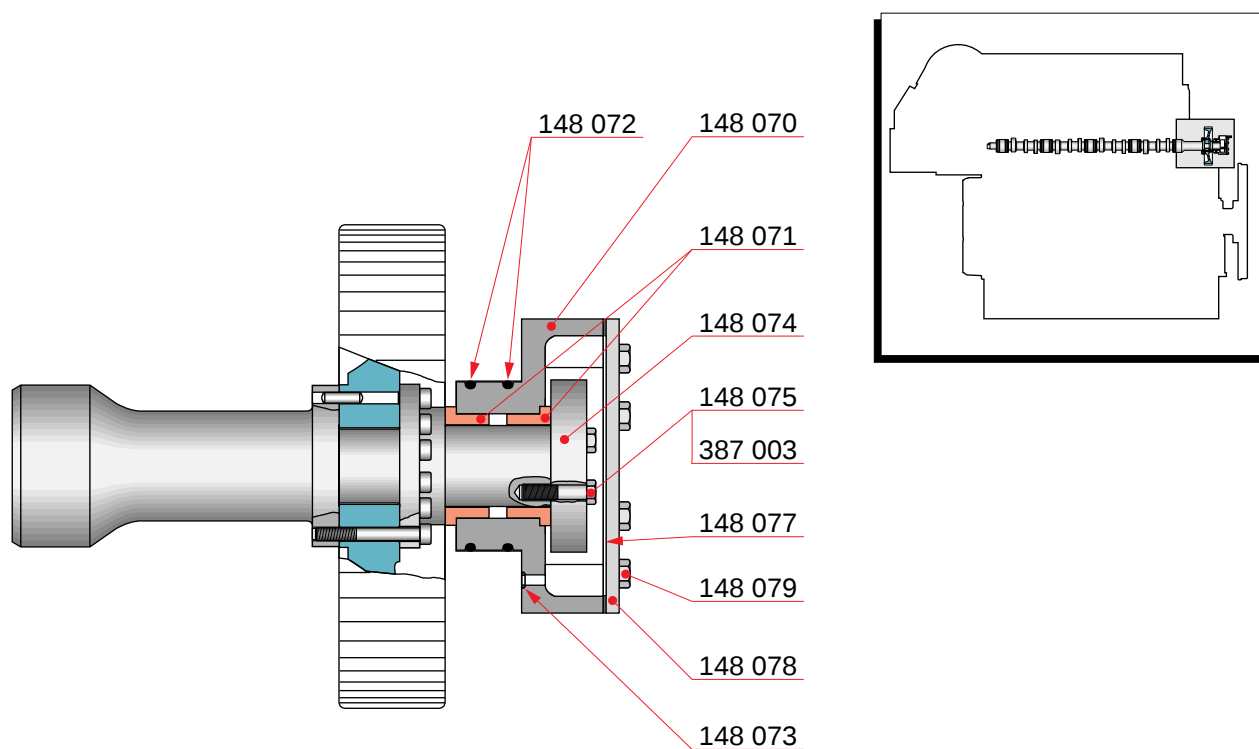
Note !

When replacing parts 148 001 and 148 002,
the screws 148 013 also have to be replaced !

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

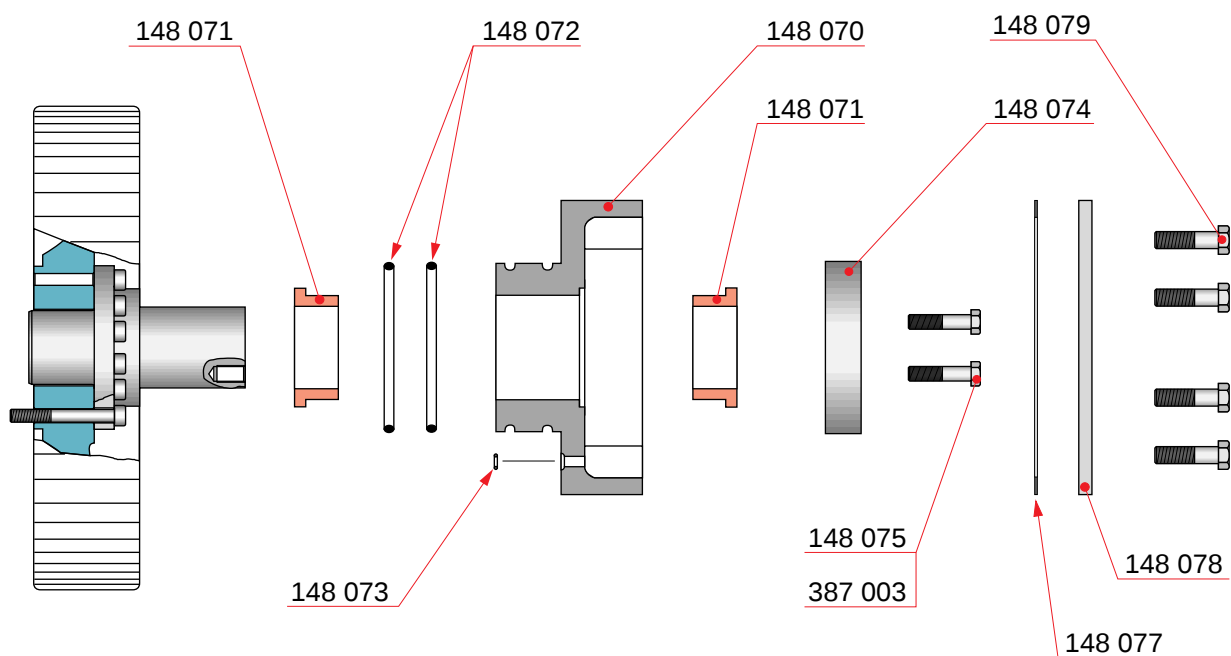
Camshaft thrust bearing, B-bank



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
148 070	Housing	1	10.0				
148 071	Bearing bush	2	0.7				
148 072	O-ring	2	-				
148 073	O-ring	1	-				
148 074	Pressure plate	1	0.7				
148 075	Screw	4	-				
148 077	Gasket	1	-				
148 078	Cover	1	2.3				
148 079	Screw	9	-				
387 003	Glue compound	1	-				

Edition: A
Page: 2(2)
Updated: 07.08.2000

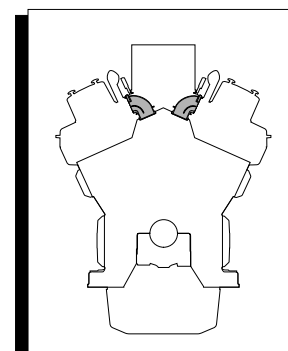
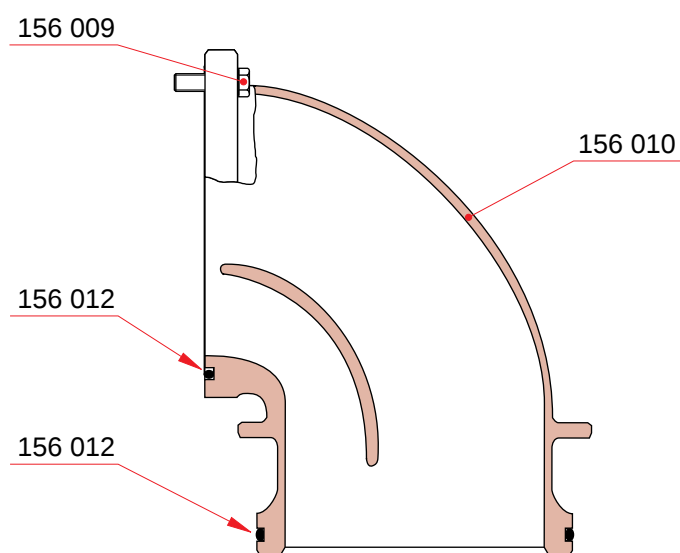
Camshaft thrust bearing, B-bank



Part No.	Description	Qty [Pcs]	Wt. [Kg]
148 070	Housing	1	10.0
148 071	Bearing bush	2	0.7
148 072	O-ring	2	-
148 073	O-ring	1	-
148 074	Pressure plate	1	0.7
148 075	Screw	4	-
148 077	Gasket	1	-
148 078	Cover	1	2.3
148 079	Screw	9	-
387 003	Glue compound	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Air bend for cylinder head

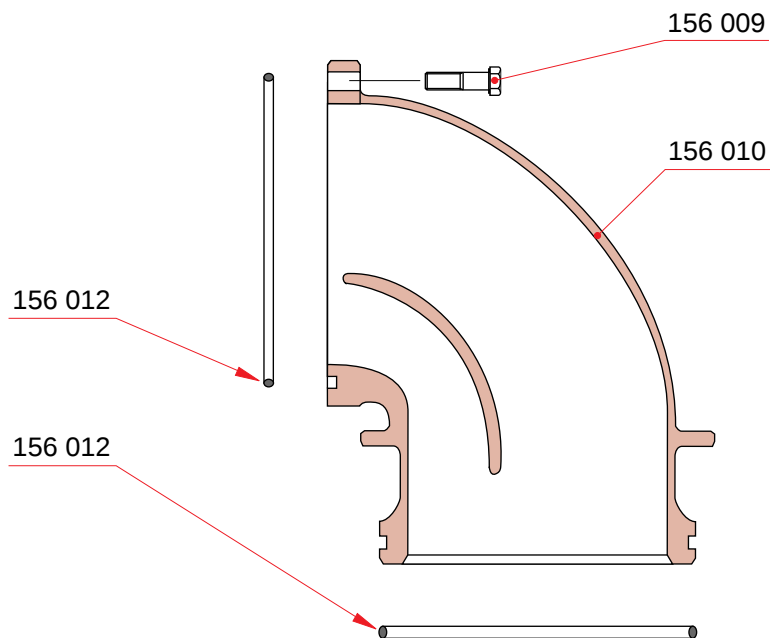


Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 009	Screw	2	-
156 010	Pipe	1	8.6
156 012	O-ring	2	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

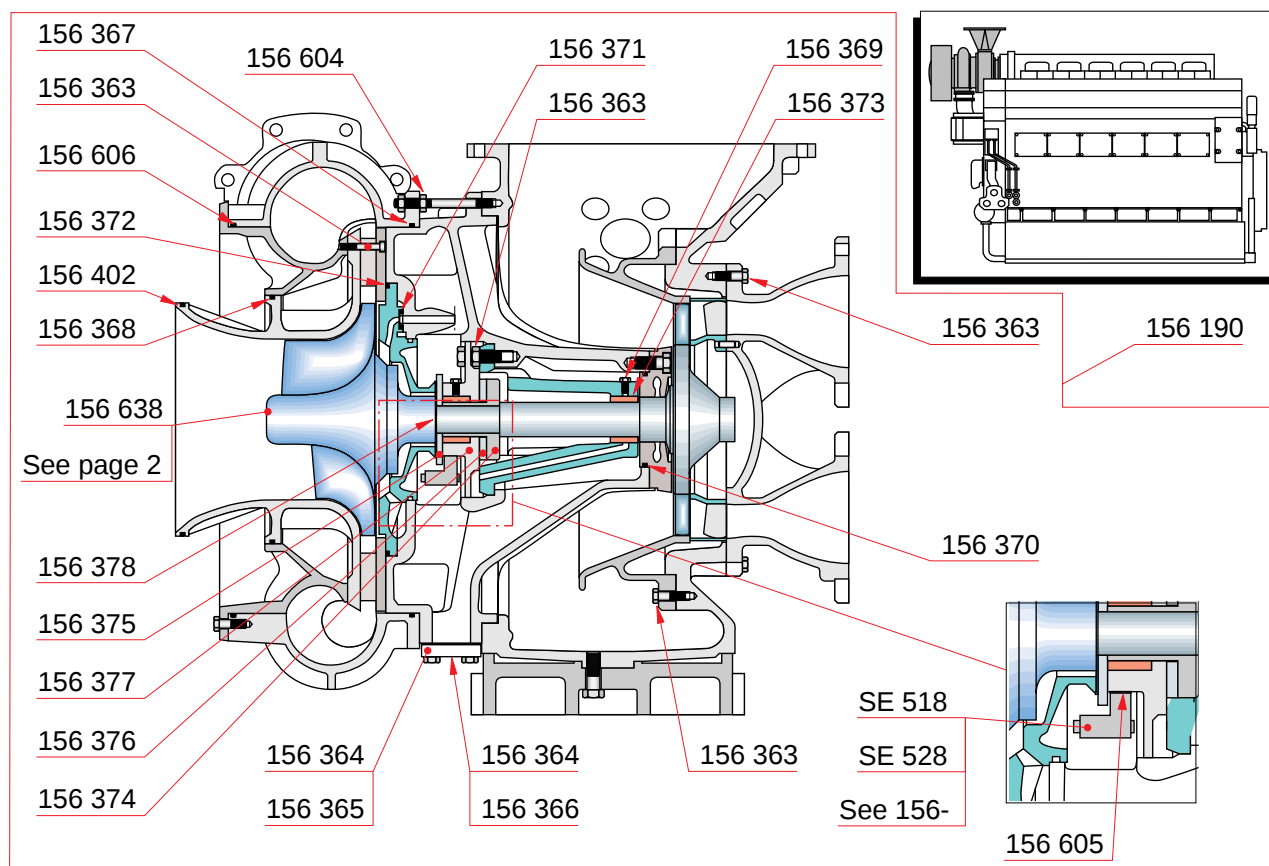
Edition: A
Page: 2(2)
Updated: 13.10.1995

Air bend for cylinder head



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 009	Screw	2	-				
156 010	Pipe	1	8.6				
156 012	O-ring	2	-				

Turbocharger

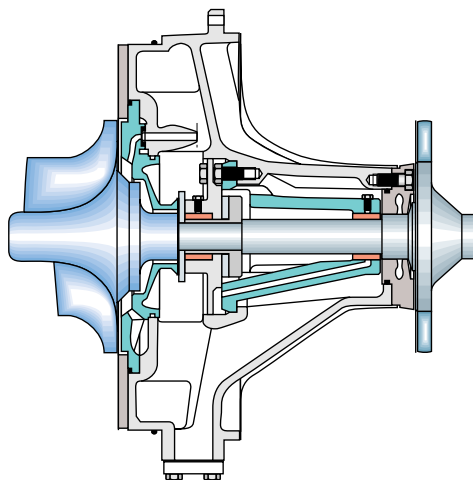


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 190	Turbocharger	1	-	NOTE!	When ordering spare parts, turbocharger serial number and specification must be given.		
156 363	Screw (1)	*	-	NOTE!	(1) Spare part set 156 379 includes items marked (1).		
156 364	Screw (1)	2	-	NOTE!	(2) Spare part set 156 380 includes items marked (2).		
156 365	Gasket (1)	1	-	NOTE!	(3) Spare part set 156 381 includes items marked (3).		
156 366	Gasket (1)	1	-	NOTE!	(4) SE 518 used in turbocharger A, SE 528 used in turbocharger B See 156-		
156 367	O-ring (1)	1	-	NOTE!	(5) O-ring 156 606 is used in TPL 69		
156 368	O-ring (1)	1	-	NOTE!	* Amount of the Screws 156 363 (13 or 15) depends on turbocharger type.		
156 369	Screw (2)	6	-	NOTE!	Only spare part sets (156 379-381), Cartridge (156 638) and speed pick-up for T/C (SE 518, SE 528) can be ordered.		
156 370	O-ring (2)	1	-				
156 371	O-ring (2)	2	-				
156 372	O-ring (2)	1	-				
156 373	Bearing (3)	2	-				
156 374	Thrust bearing (3)	1	-				
156 375	Thrust bearing (3)	1	-				
156 376	Disc (3)	1	-				
156 377	Bearing (3)	1	-				
156 378	Gasket (2)	1	-				
156 402	O-ring (1)	1	-				
156 604	Nut (1)	3	-				
156 605	O-ring (1)	1	-				
156 606	O-ring (1) (5)	1	-				
156 638	Cartridge	1	-				
SE518	Speed pick-up (4)	1	0.4				
SE528	Speed pick-up (4)	1	0.4				

Edition: G
Page: 2(6)
Updated: 06.10.2003

Turbocharger

156 638

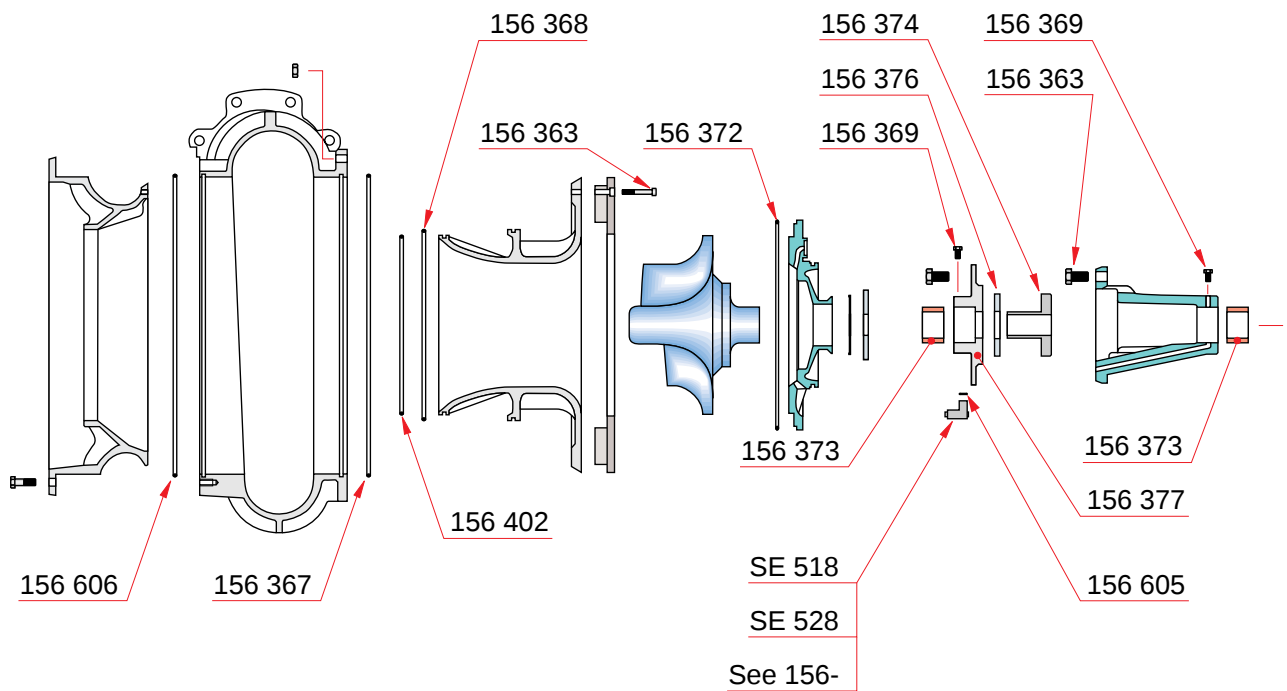


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 638	Cartridge	1	-				

NOTE! When ordering spare parts, turbocharger serial number and specification must be given.

NOTE! Only spare part sets (156 379-381), Cartridge (156 638) and speed pick-up for T/C (SE 518, SE 528) can be ordered.

Turbocharger



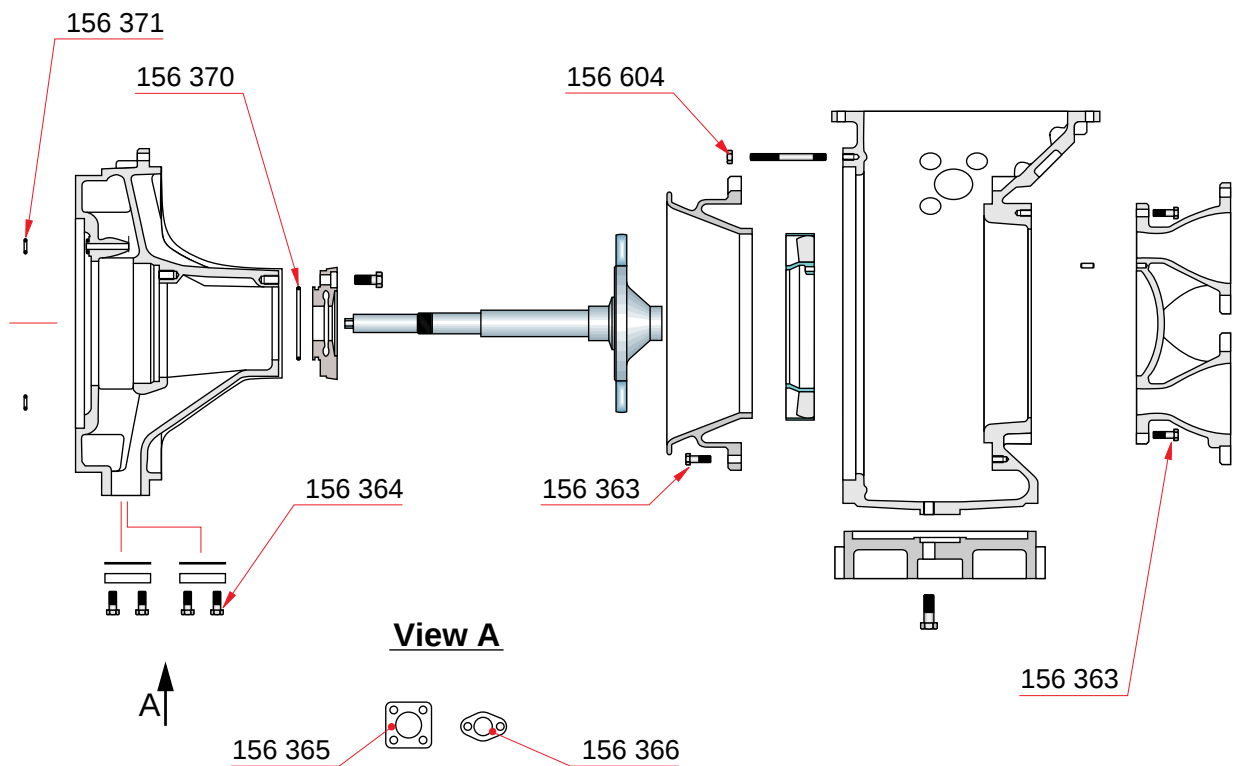
Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

NOTE!

SE 518 used in turbocharger A, SE 528 used in turbocharger B See 156-

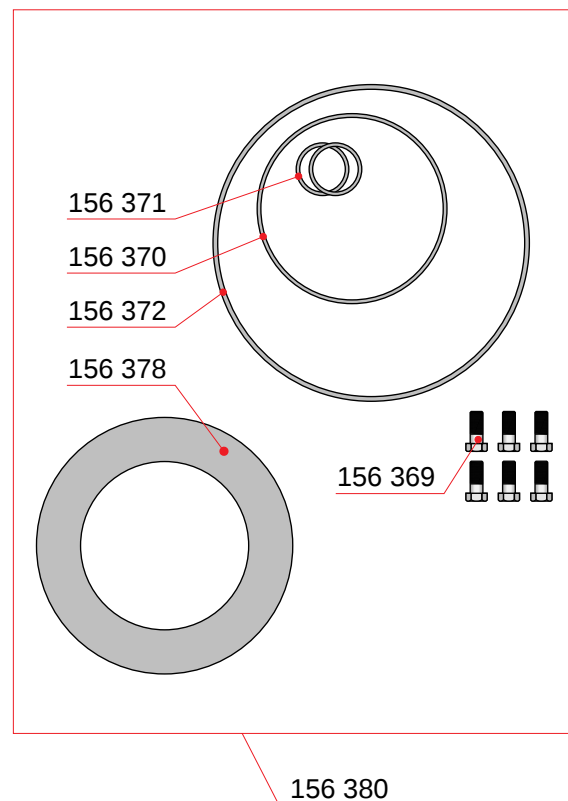
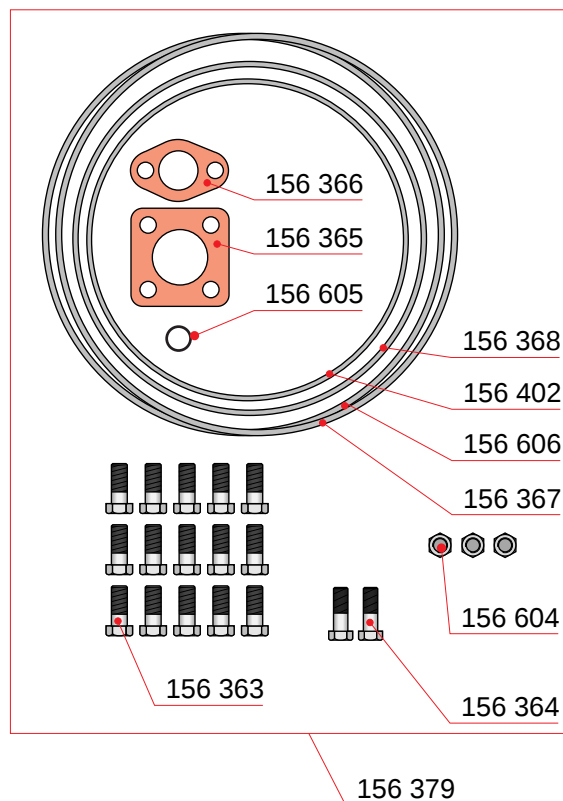
Edition: G
Page: 4(6)
Updated: 06.10.2003

Turbocharger



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

Turbocharger



Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 379	Spare part kit	1	1.9
156 363	Screw	*	-
156 364	Screw	2	-
156 365	Gasket	1	-
156 366	Gasket	1	-
156 367	O-ring	1	-
156 368	O-ring	1	-
156 402	O-ring	1	-
156 604	Nut	3	-
156 605	O-ring	1	-
156 606	O-ring (5)	1	-
156 380	Spare part kit	1	0.4
156 369	Screw	6	-
156 370	O-ring	1	-
156 371	O-ring	2	-
156 372	O-ring	1	-
156 378	Gasket	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
NOTE!	Only spare part sets (156 379-381), cartridge (156 638) and speed pick-up for T/C (SE 518, SE 528) can be ordered.		

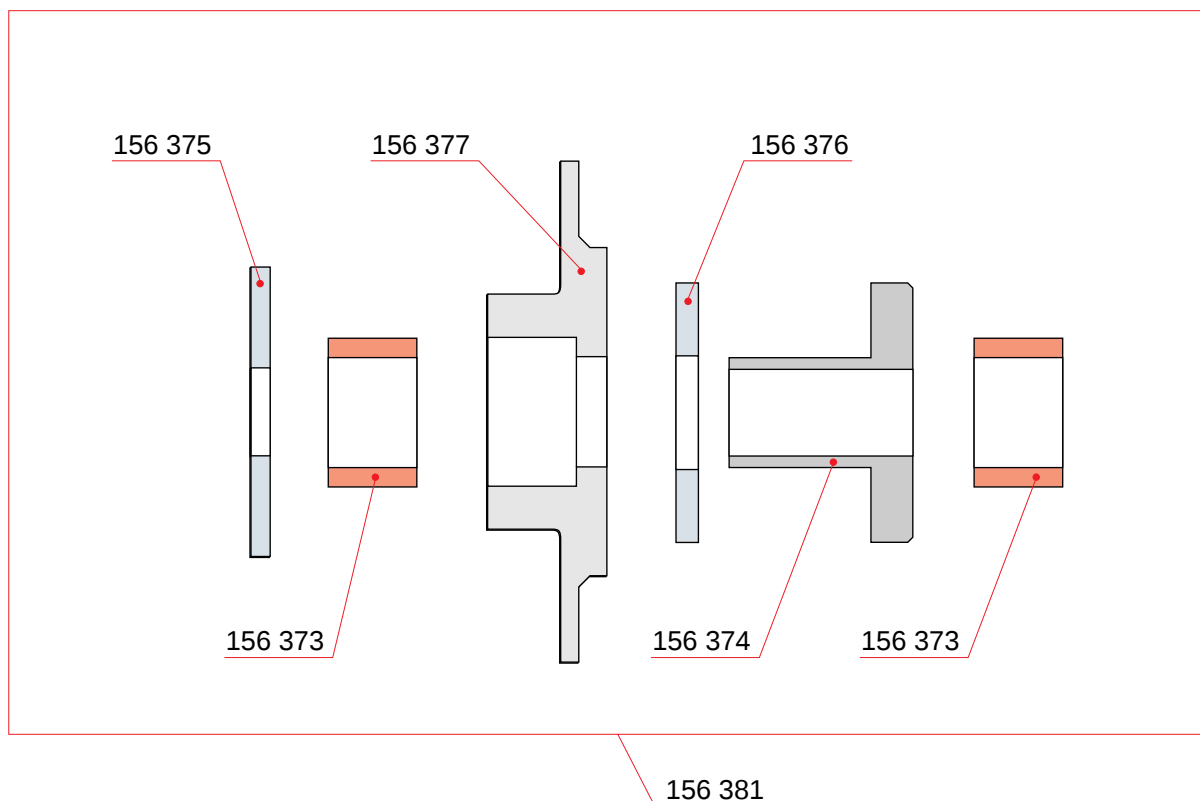
NOTE! When ordering spare parts, turbocharger serial number and specification must be given.

NOTE! (5) O-ring 156 606 is used in TPL 69

NOTE! * The amount of the Screws 156 363 (13 or 15) depends on turbocharger type.

Edition: G
 Page: 6(6)
 Updated: 06.10.2003

Turbocharger



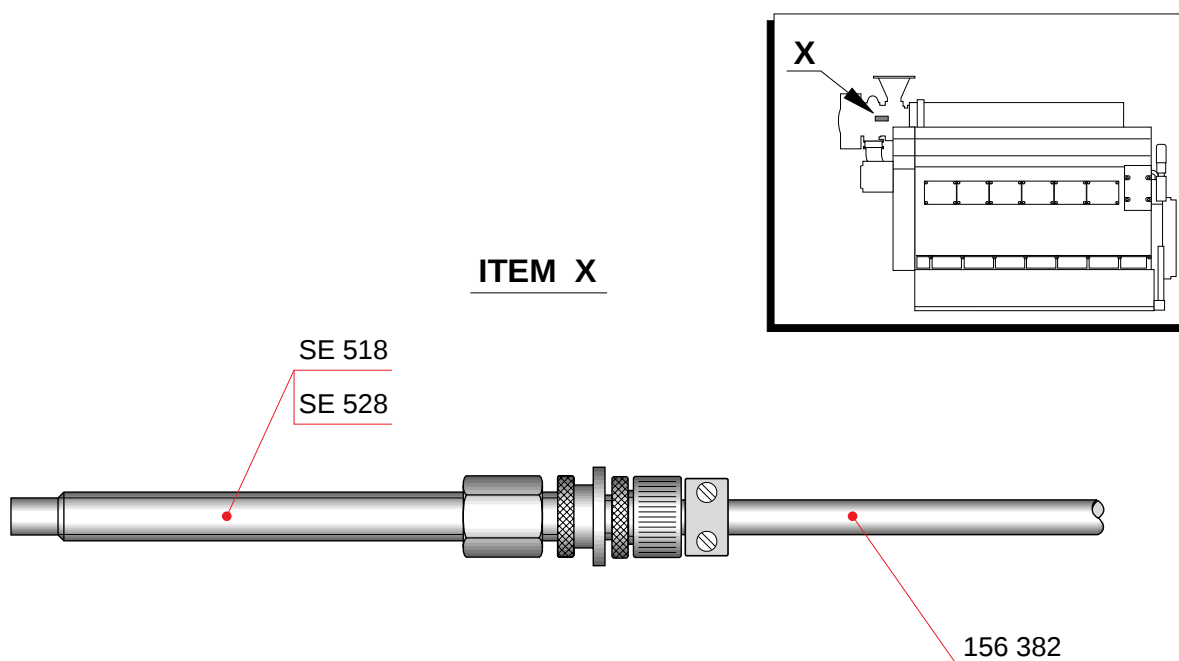
Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 381	Spare part kit	1	11.8
156 373	Bearing	2	-
156 374	Thrust bearing	1	-
156 375	Thrust bearing	1	-
156 376	Disc	1	-
156 377	Bearing	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

NOTE! When ordering spare parts, turbocharger serial number and specification must be given.

NOTE! Only spare part sets (156 379-381), cartridge (156 638) and speed pick-up for T/C (SE 518, SE 528) can be ordered.

Speed pickup



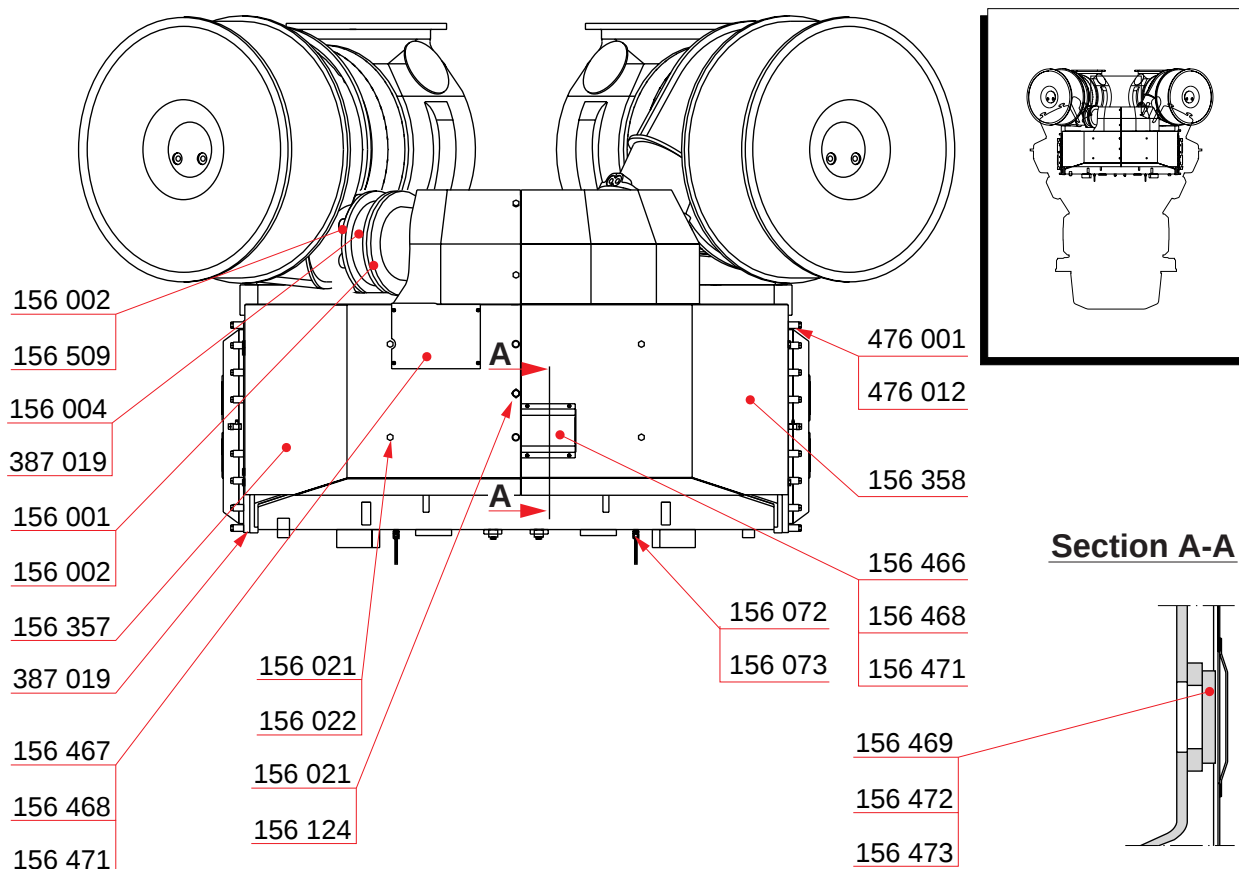
Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 382	Cable	1	-
SE518	Speed pick-up (1)	1	-
SE528	Speed pick-up (1)	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

NOTE! (1) SE 518 used in turbocharger A,
SE 528 used in turbocharger B.

This page is intentionally left blank.

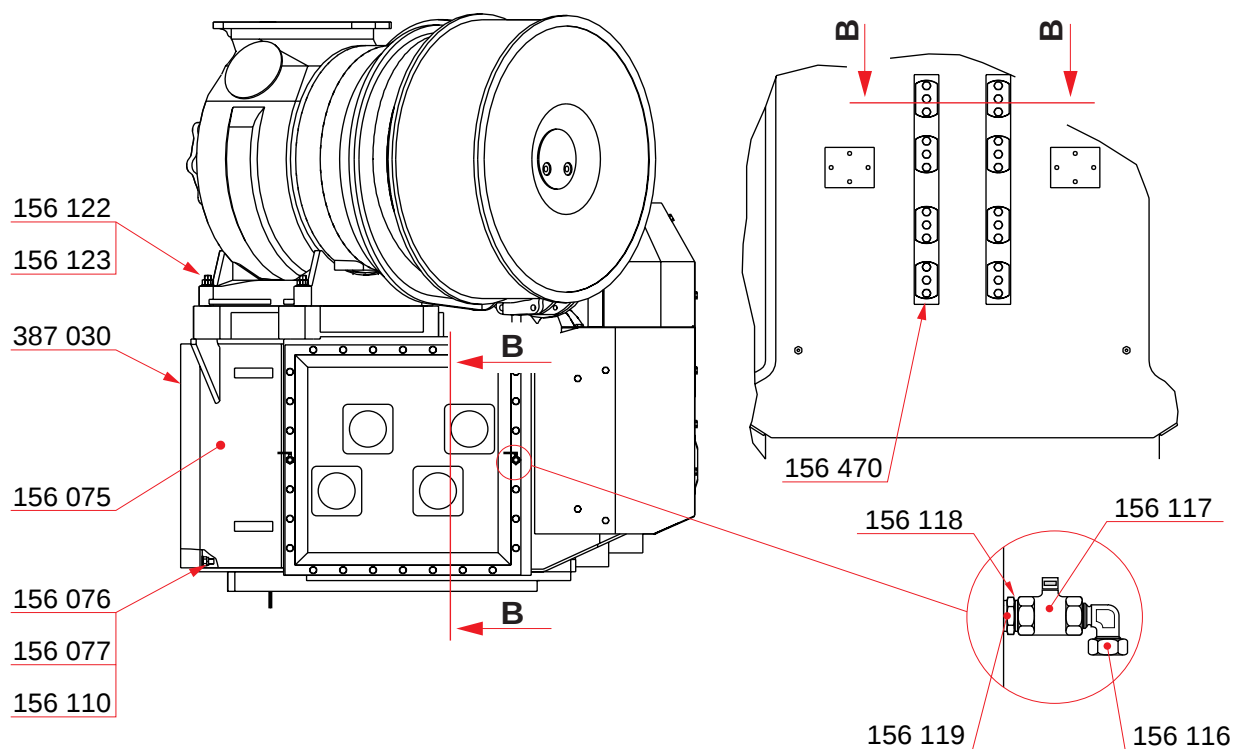
Charge air system



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 001	Nut	16	-	NOTE!	(1) L= 100mm		
156 002	Screw	32	-				
156 004	Bellows	2	13.1				
156 021	Screw	17	-				
156 022	Washer	12	-				
156 072	Pipe union	2	-				
156 073	Pipe (1)	-	0.2				
156 124	Washer	5	-				
156 357	Cover	1	-				
156 358	Cover	1	-				
156 466	Cover	1	-				
156 467	Cover	1	-				
156 468	Screw	8	-				
156 469	Screw	4	-				
156 471	Nut	6	-				
156 472	Flange	1	1.2				
156 473	Gasket	1	-				
156 509	Nut	16	-				
387 019	Glue compound	1	-				
476 001	Screw	56	-				
476 012	Bush	56	-				

Edition: A
 Page: 2(4)
 Updated: 20.07.2001

Charge air system

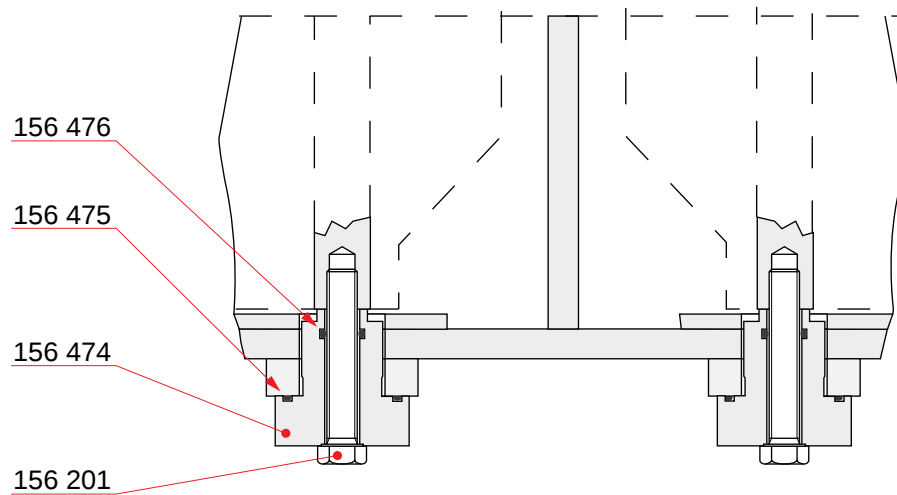


Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 075	Housing for air cooler	1	1400
156 076	Nut	70	-
156 077	Screw	70	0.2
156 110	Washer	70	-
156 116	Pipe union	4	-
156 117	Valve	4	0.2
156 118	Gasket	4	-
156 119	Pipe union	4	0.1
156 122	Nut	8	-
156 123	Screw	8	0.3
156 470	Screw	16	-
387 030	Glue compound	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Charge air system

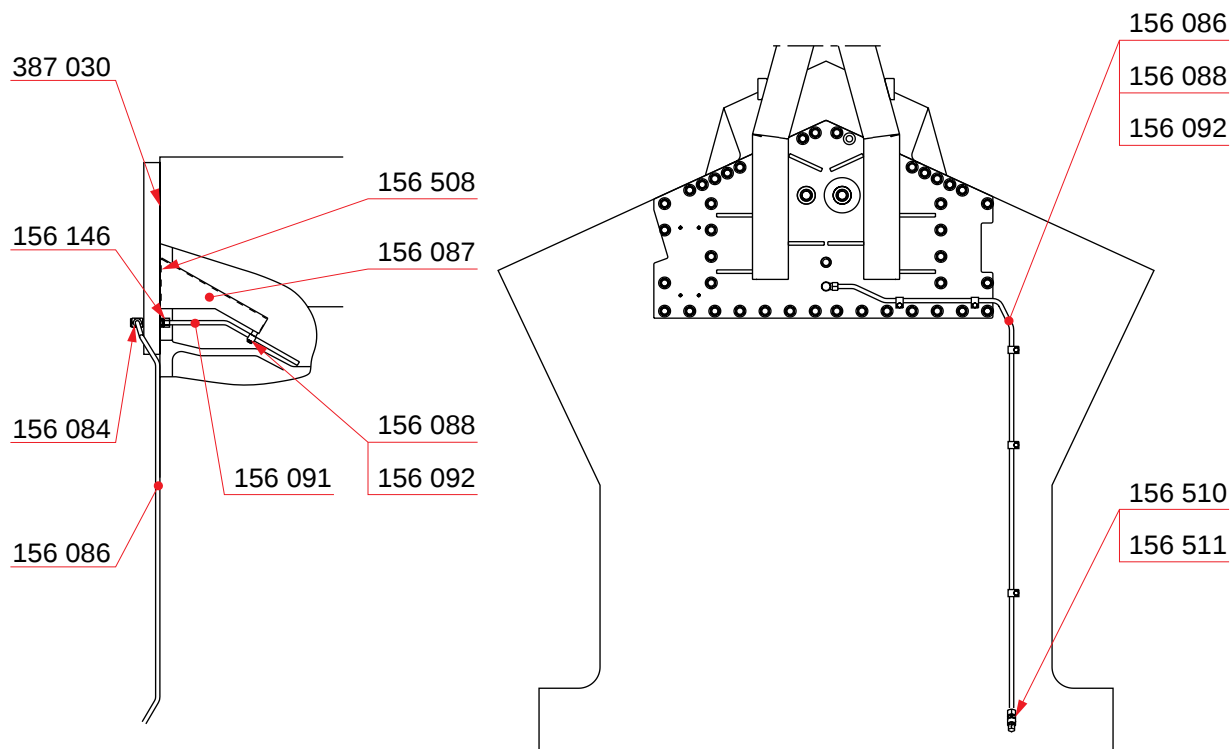
Section B-B



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 201	Screw	8	-				
156 474	Pin	8	-				
156 475	O-ring	8	-				
156 476	O-ring	8	-				

Edition: A
 Page: 4(4)
 Updated: 20.07.2001

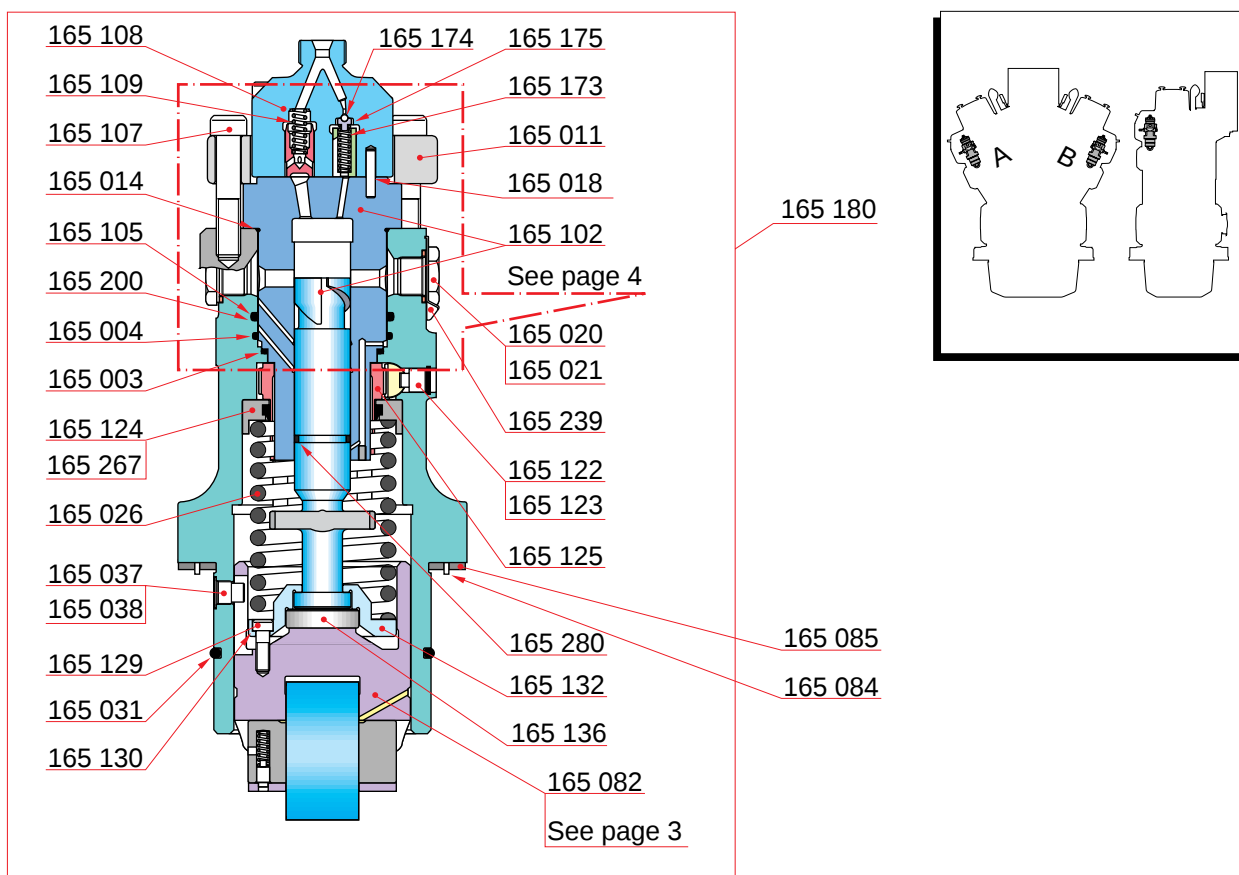
Charge air system



Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 084	Pipe union	1	0.2
156 086	Pipe	1	-
156 087	Bracket	1	-
156 088	Screw	6	-
156 091	Pipe	1	-
156 092	Pipe clamp	6	-
156 146	Pipe union	1	-
156 508	Screw	2	-
156 510	Reduction union	1	-
156 511	Pipe union	1	-
387 030	Glue compound	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

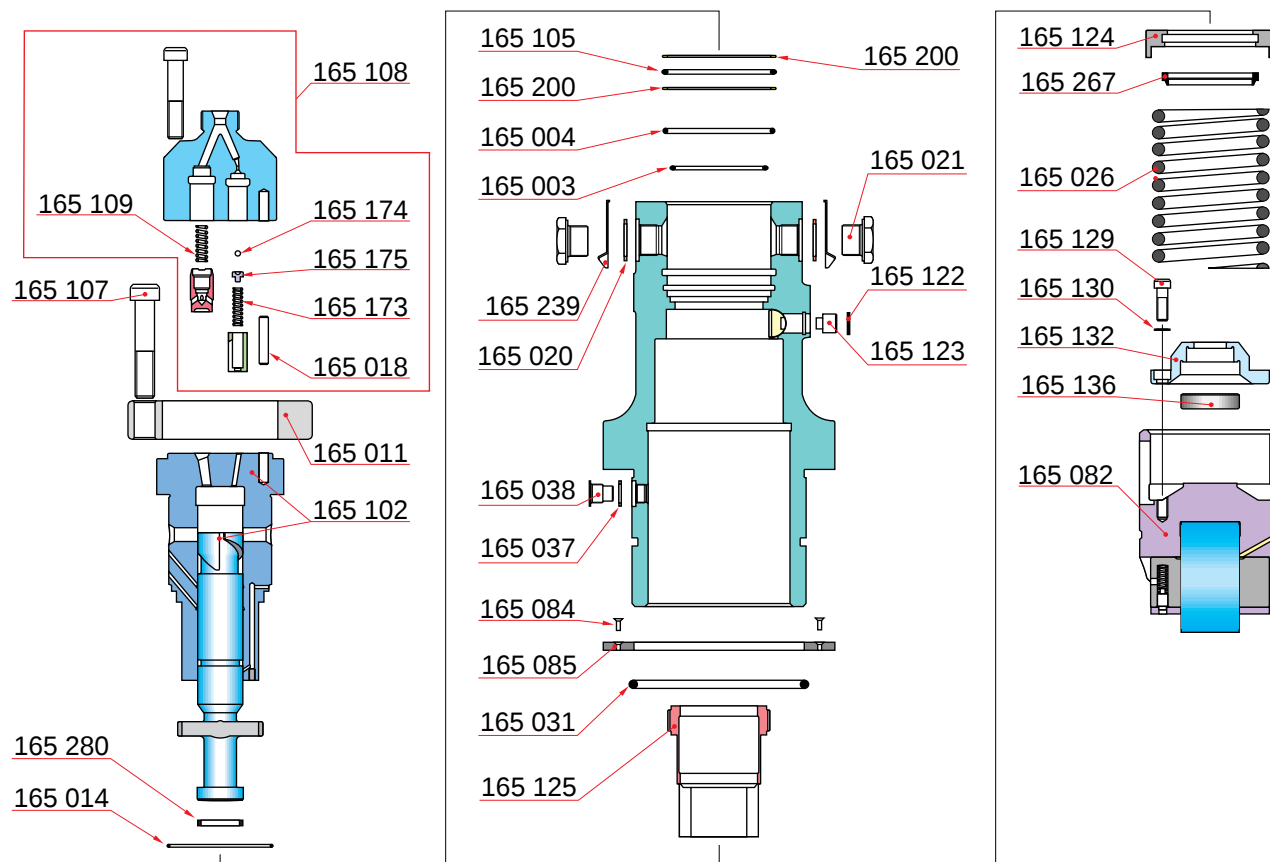
Injection pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
165 180	Injection pump	1	35.0	165 129	Screw	4	-
165 003	O-ring	1	-	165 130	Screw locking	1	-
165 004	O-ring	1	-	165 132	Spring plate, lower	1	0.4
165 011	Flange	1	1.4	165 136	Calibrating disc set	1	1.3
165 014	O-ring	1	-	165 200	Support ring	2	-
165 020	Sealing ring	2	-	165 239	Securing plate	2	-
165 021	Plug	2	0.1	165 084	Slotted head pin	2	-
165 026	Spring	1	1.1	165 085	Fitted plate	1	0.3
165 031	O-ring	1	-	165 178	Spare part set for pump	1	0.3
165 037	Sealing ring	1	-				
165 038	Screw	1	-				
165 082	Roller follower, compl.	1	5.2				
165 102	Pump element	1	4.9				
165 280	Sealing ring	1	-				
165 105	O-ring	1	-				
165 107	Screw	8	0.1				
165 108	Adapter	1	1.7				
165 018	Pin	1	-				
165 109	Spring	1	-				
165 173	Spring	1	-				
165 174	Ball	1	-				
165 175	Limiter	1	-				
165 122	Retainer ring	1	-				
165 123	Retainer screw	1	-				
165 124	Spring plate, upper	1	0.3				
165 267	Gasket	1	-				
165 125	Control sleeve	1	0.6				

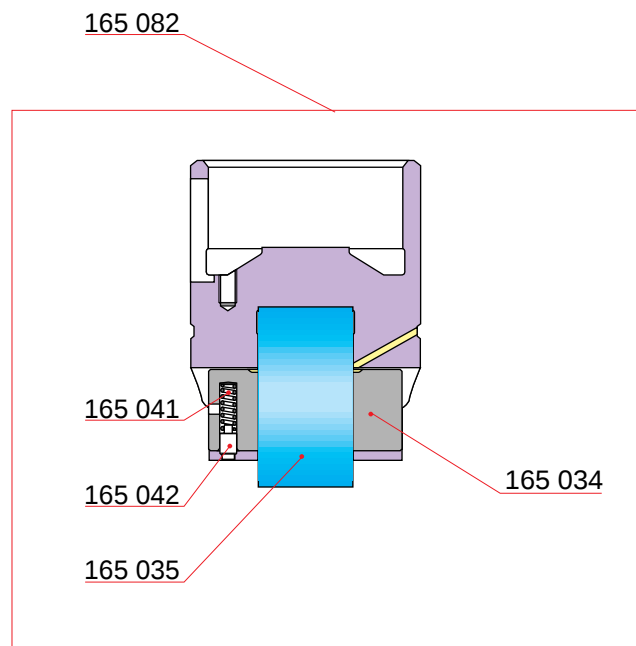
Edition: D
Page: 2(7)
Updated: 04.06.2004

Injection pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
165 003	O-ring	1	-	165 122	Retainer ring	1	-
165 004	O-ring	1	-	165 123	Retainer screw	1	-
165 011	Flange	1	1.4	165 124	Spring plate, upper	1	0.3
165 014	O-ring	1	-	165 267	Gasket	1	-
165 020	Sealing ring	2	-	165 125	Control sleeve	1	0.6
165 021	Plug	2	0.1	165 129	Screw	4	-
165 026	Spring	1	1.1	165 130	Screw locking	1	-
165 031	O-ring	1	-	165 132	Spring plate, lower	1	0.4
165 037	Sealing ring	1	-	165 136	Calibrating disc set	1	1.3
165 038	Screw	1	-	165 200	Support ring	2	-
165 082	Roller follower, compl.	1	5.2	165 239	Securing plate	2	-
165 084	Slotted head pin	2	-				
165 085	Fitted plate	2	0.3				
165 102	Pump element	2	4.9				
165 280	Sealing ring	1	-				
165 105	O-ring	2	-				
165 107	Screw	8	0.1				
165 108	Adapter	1	1.7				
165 018	Pin	1	-				
165 109	Spring	1	-				
165 173	Spring	1	-				
165 174	Ball	1	-				
165 175	Limiter	1	-				

Injection pump

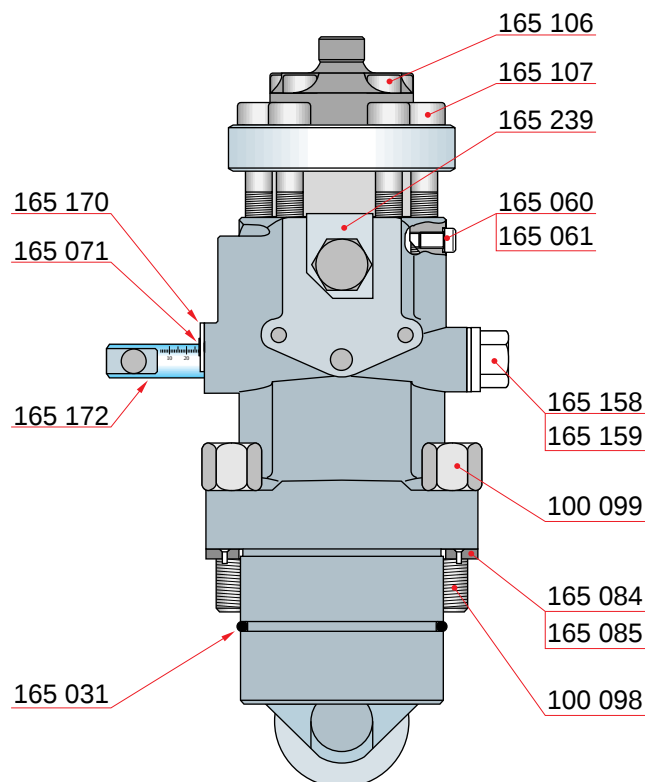


Part No.	Description	Qty [Pcs]	Wt. [Kg]
165 082	Roller follower, compl.	1	5.2
165 034	Roller bearing pin	1	0.8
165 035	Tappet roller	1	1.2
165 041	Spring	1	-
165 042	Pin	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

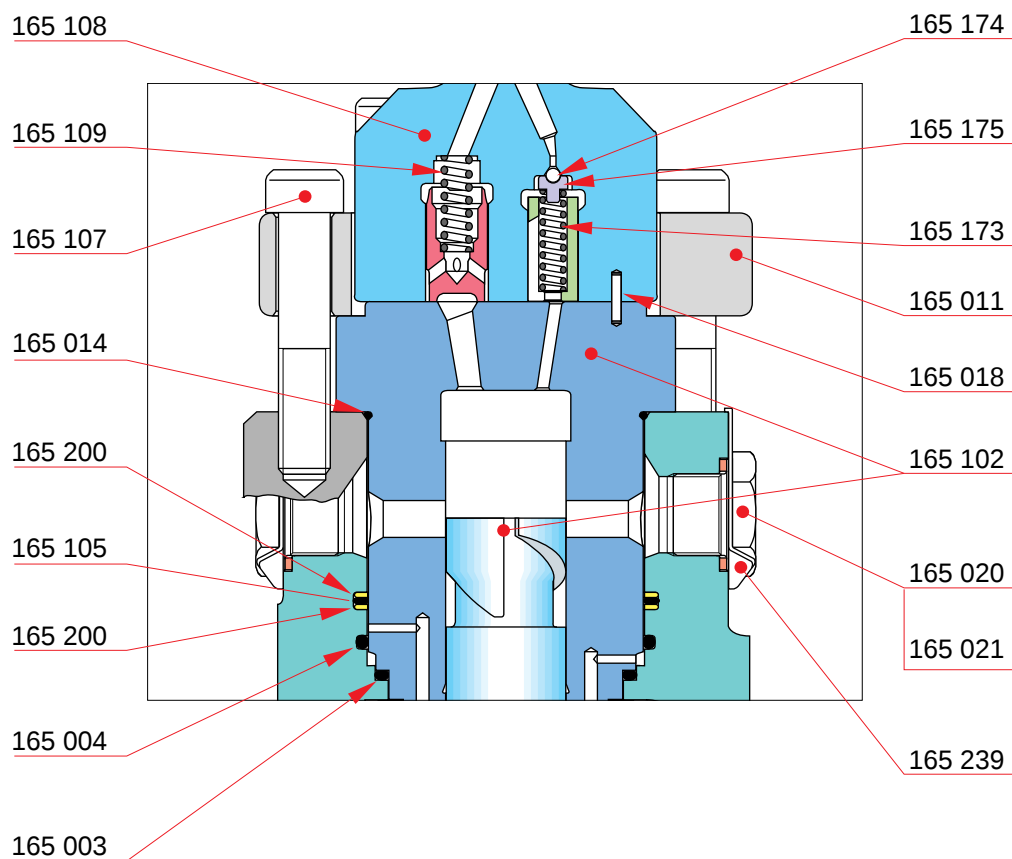
Edition: D
 Page: 4(7)
 Updated: 04.06.2004

Injection pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 098	Screw	4	-				
100 099	Nut	4	-				
165 031	O-ring	1	-				
165 060	Screw	1	-				
165 061	Sealing ring	1	-				
165 071	Screw	2	-				
165 084	Slotted head pin	1	-				
165 085	Fitted plate	1	0.3				
165 106	Screw	6	-				
165 107	Screw	8	0.1				
165 158	Plug	1	-				
165 159	Sealing ring	1	-				
165 170	Indicator	1	-				
165 172	Fuel rack	1	0.4				
165 239	Securing plate	2	-				

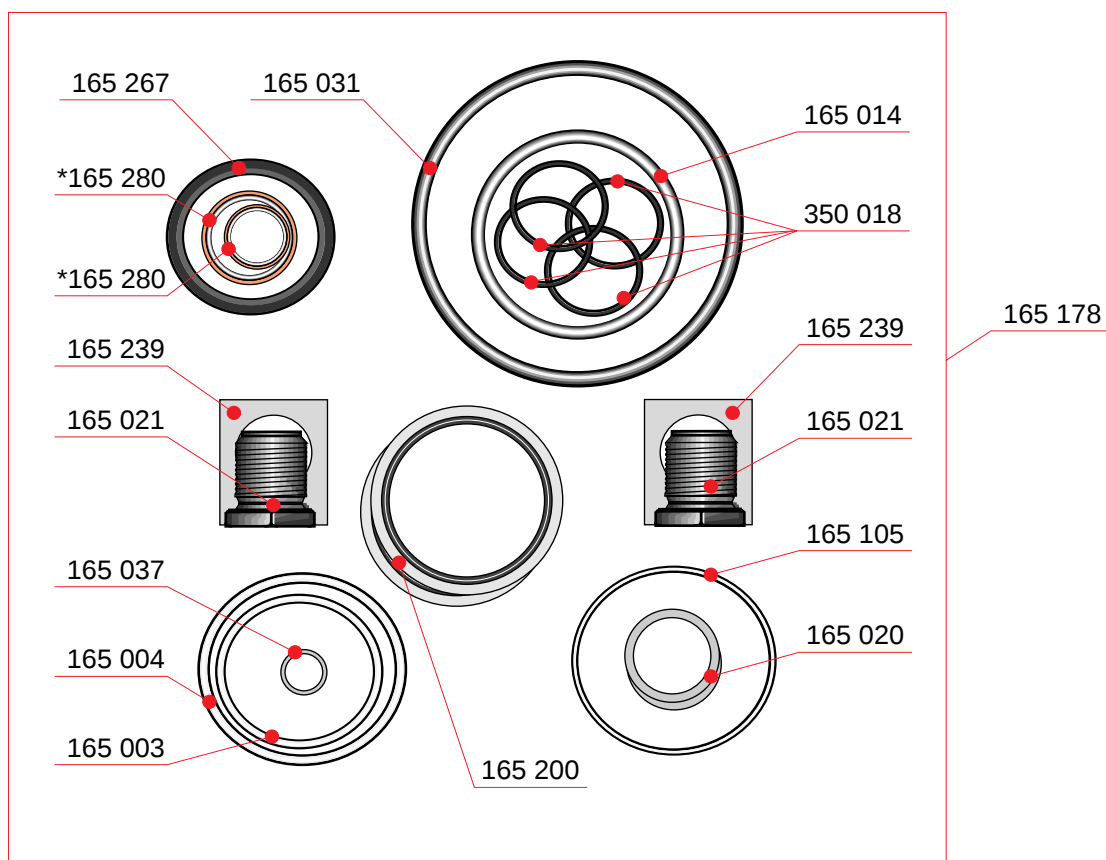
Injection pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
165 003	O-ring	1	-				
165 004	O-ring	1	-				
165 011	Flange	1	1.4				
165 014	O-ring	1	-				
165 020	Sealing ring	2	-				
165 021	Plug	2	0.1				
165 102	Pump element	1	4.9				
165 105	O-ring	1	-				
165 107	Screw	8	0.1				
165 108	Adapter	1	1.7				
165 018	Pin	1	-				
165 109	Spring	1	-				
165 173	Spring	1	-				
165 174	Ball	1	-				
165 175	Limiter	1	-				
165 200	Support ring	2	-				
165 239	Securing plate	2	-				

Edition: D
 Page: 6(7)
 Updated: 04.06.2004

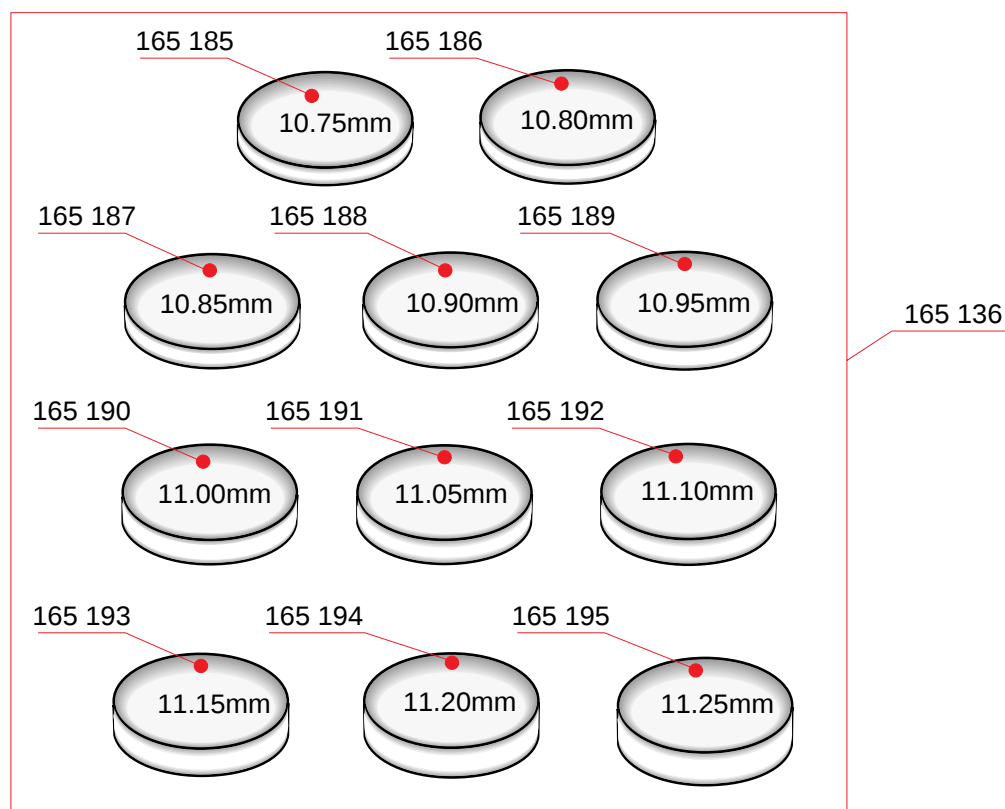
Injection pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
165 178	Spare part set for pump	1	0.3				
165 003	O-ring	1	-				
165 004	O-ring	1	-				
165 014	O-ring	1	-				
165 020	Sealing ring	2	-				
165 021	Plug	2	0.1				
165 031	O-ring	1	-				
165 037	Sealing ring	1	-				
165 105	O-ring	1	-				
165 200	Support ring	2	-				
165 239	Securing plate	2	-				
165 267	Gasket	1	-				
165 280	Sealing ring	*	-				
350 018	O-ring	4	-				

NOTE! * Choose right sealing ring 165 280, according to the pump element size.

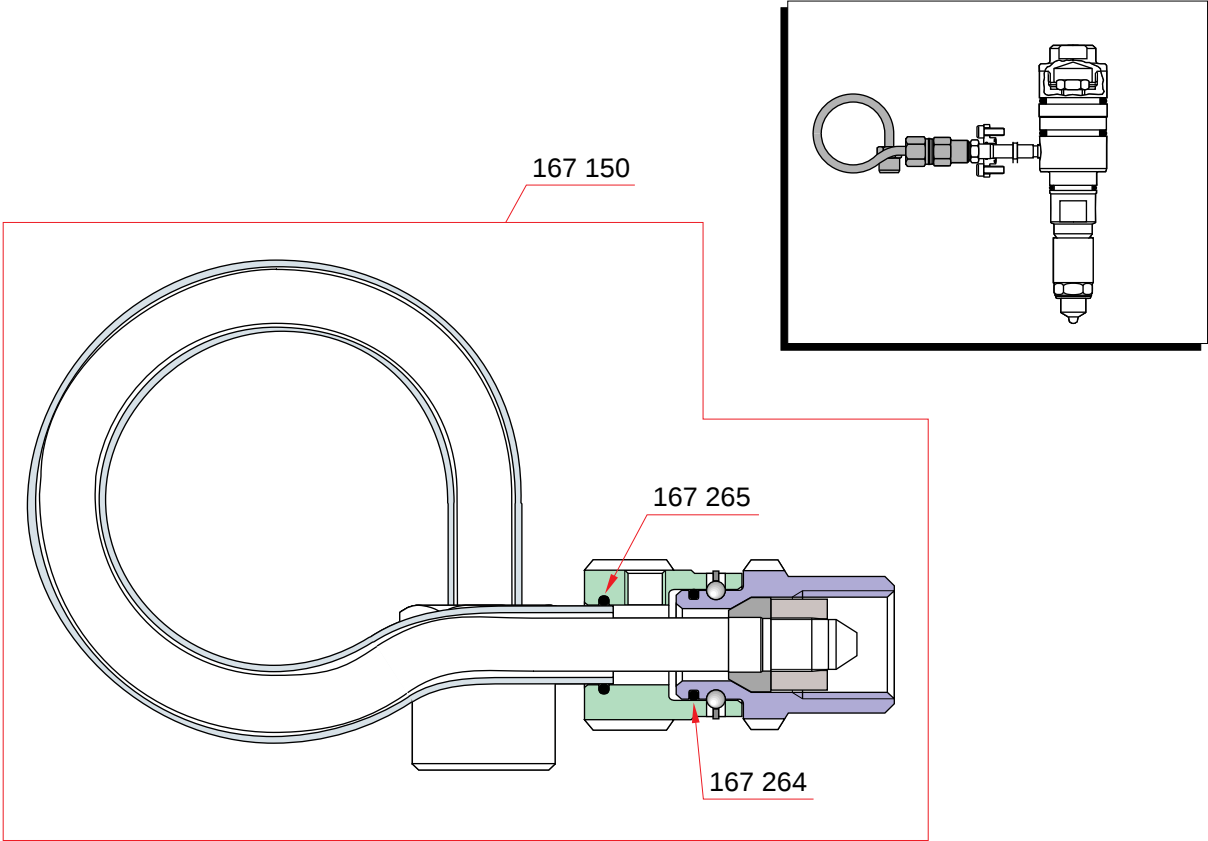
Injection pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
165 136	Calibrating disc set	1	1.3				
165 185	Calibrating disc	1	0.1				
165 186	Calibrating disc	1	0.1				
165 187	Calibrating disc	1	0.1				
165 188	Calibrating disc	1	0.1				
165 189	Calibrating disc	1	0.1				
165 190	Calibrating disc	1	0.1				
165 191	Calibrating disc	1	0.1				
165 192	Calibrating disc	1	0.1				
165 193	Calibrating disc	1	0.1				
165 194	Calibrating disc	1	0.1				
165 195	Calibrating disc	1	0.1				

This page is intentionally left blank.

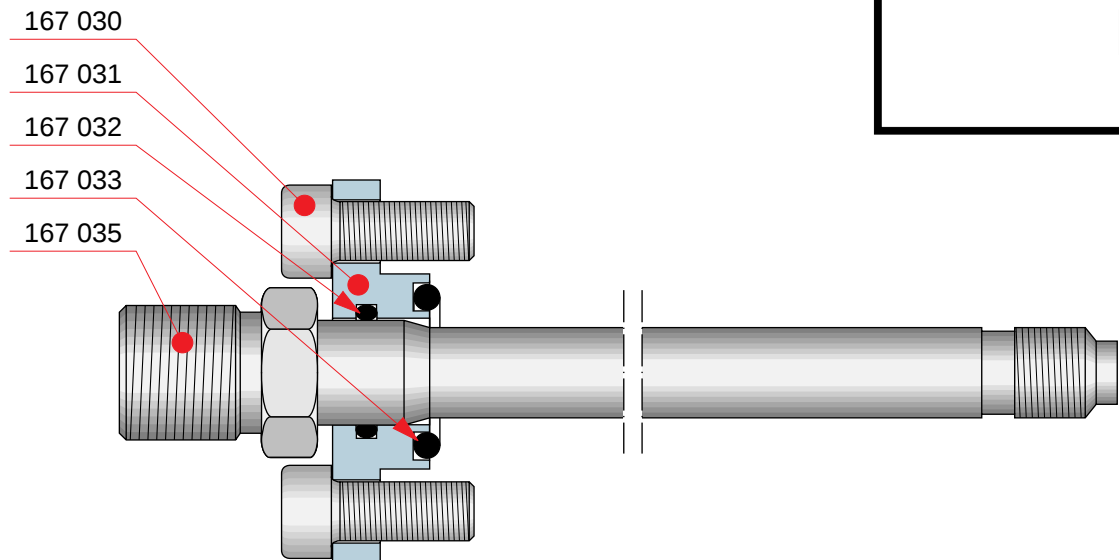
Fuel injection pipe, shielded



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 150	Injection pipe	1	-				
167 264	O-ring	1	-				
167 265	O-ring	1	-				

This page is intentionally left blank.

Connection piece for fuel injection valve

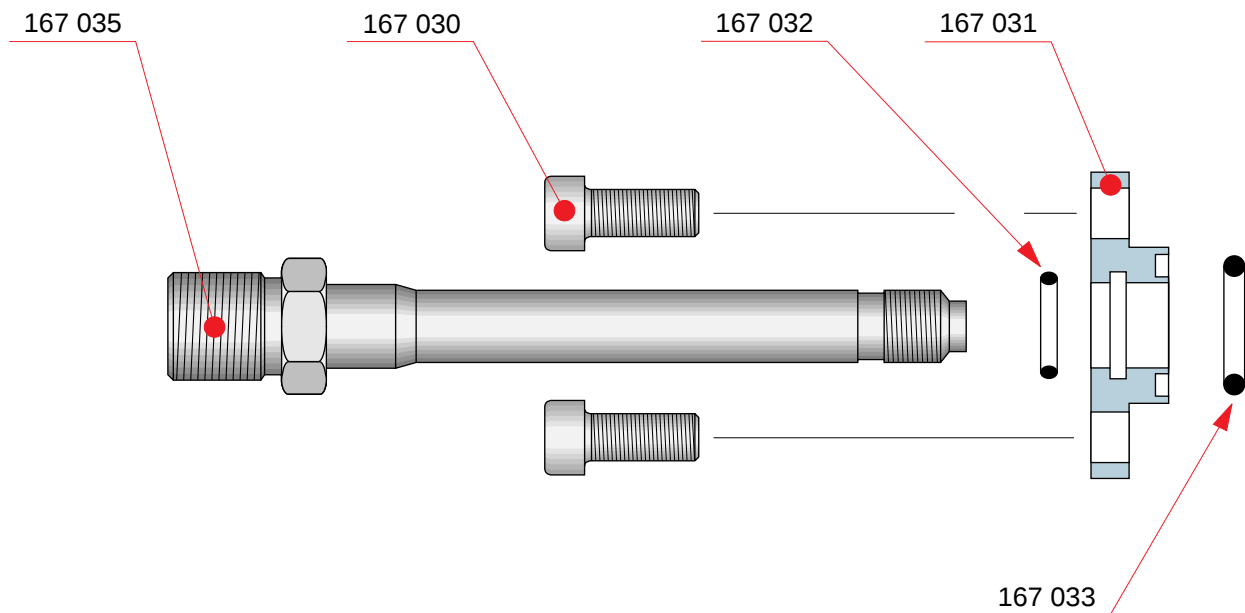


Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 030	Screw	2	-
167 031	Flange	1	0.2
167 032	O-ring	1	-
167 033	O-ring	1	-
167 035	Connection piece	1	0.6

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Edition: A
Page: 2(2)
Updated: 26.10.1993

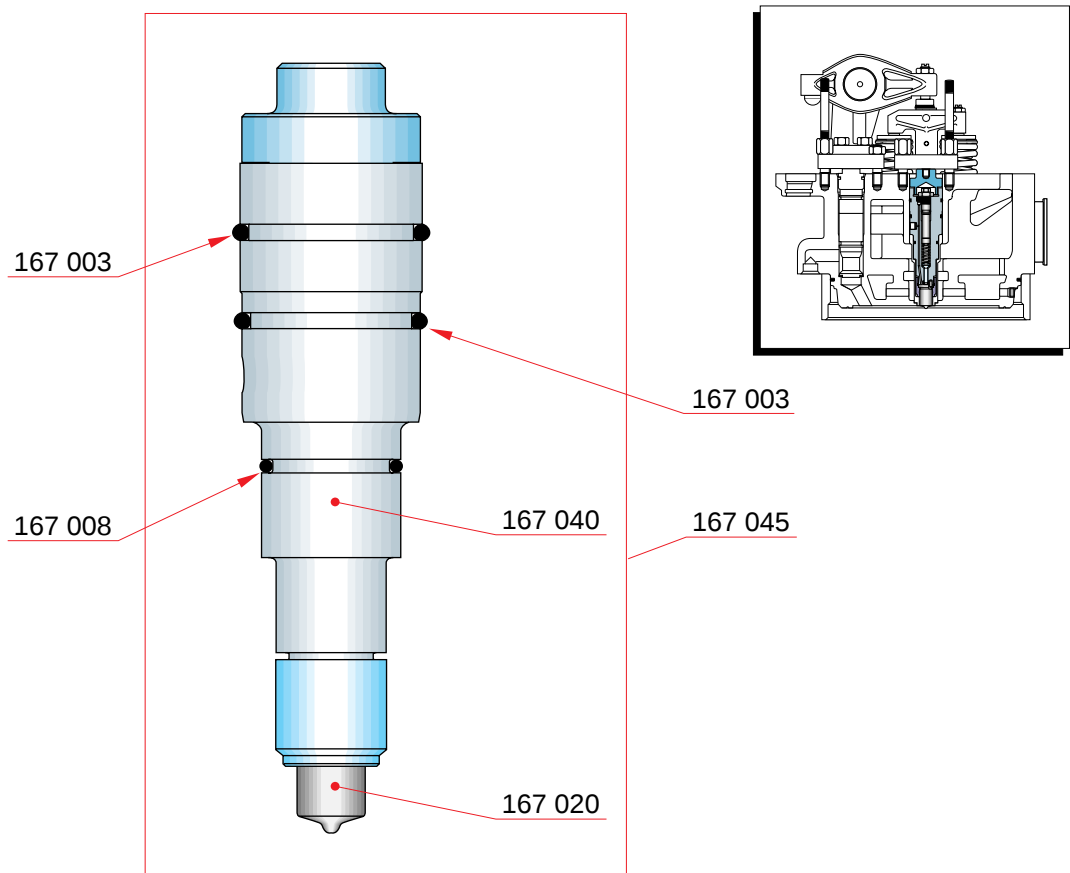
Connection piece for fuel injection valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 030	Screw	2	-
167 031	Flange	1	0.2
167 032	O-ring	1	-
167 033	O-ring	1	-
167 035	Connection piece	1	0.6

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

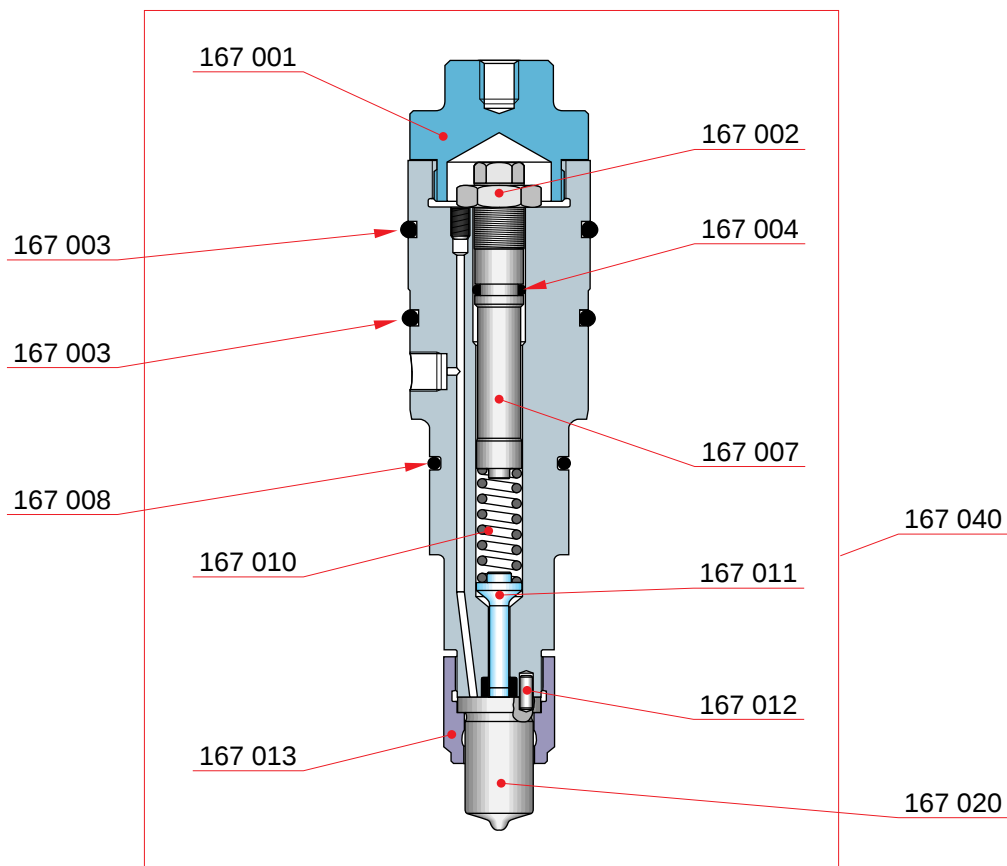
Injection valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 003	O-ring	2	-				
167 008	O-ring	1	-				
167 045	Injection valve	1	7.4				
167 020	Nozzle	1	0.2				
167 040	Nozzle holder	1	7.3				

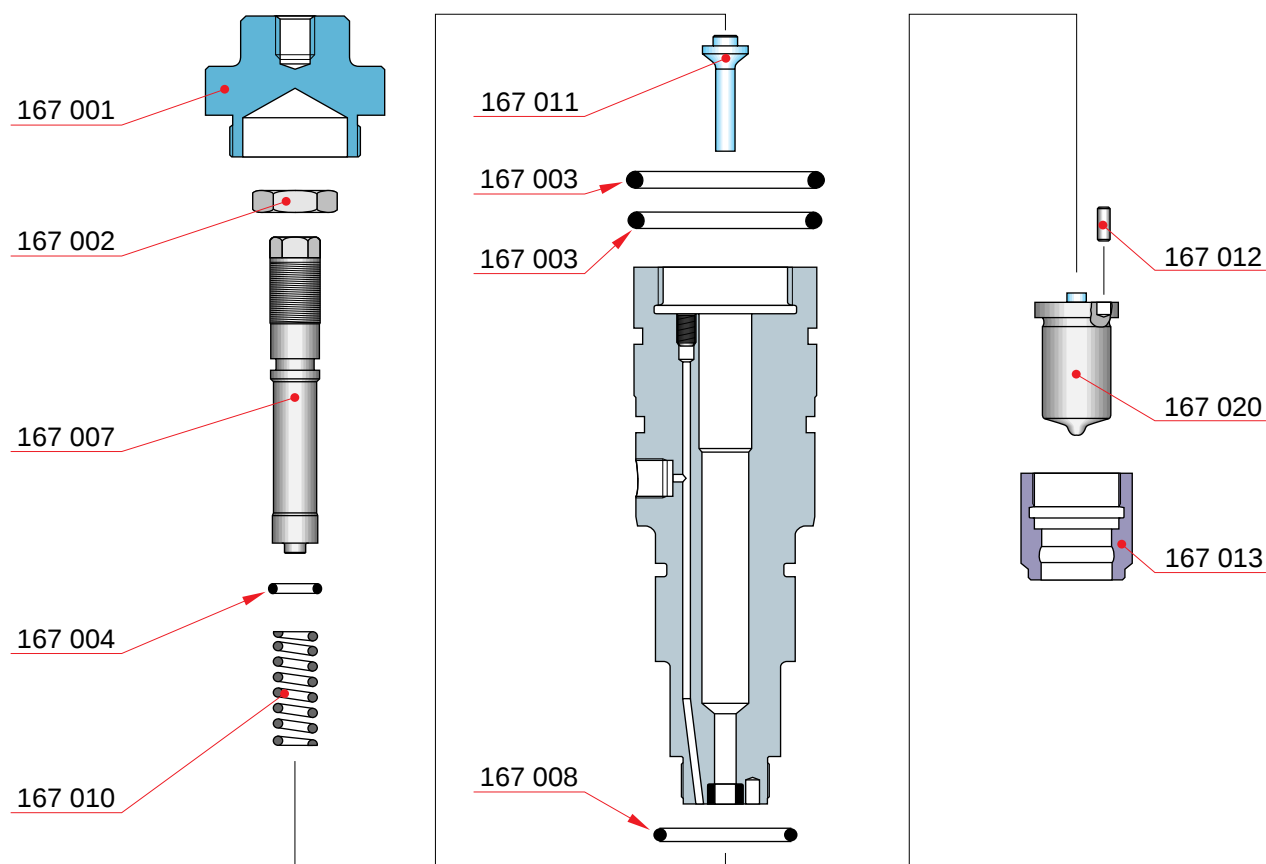
Edition: A
 Page: 2(4)
 Updated: 15.06.1995

Injection valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 003	O-ring	2	-				
167 008	O-ring	1	-				
167 020	Nozzle	1	0.2				
167 040	Nozzle holder	1	7.3				
167 001	End cup	1	1.3				
167 002	Nut	1	-				
167 004	Sealing ring	1	-				
167 007	Screw	1	0.3				
167 010	Spring	1	-				
167 011	Push rod	1	-				
167 012	Fixing pin	1	-				
167 013	Nozzle nut	1	0.2				

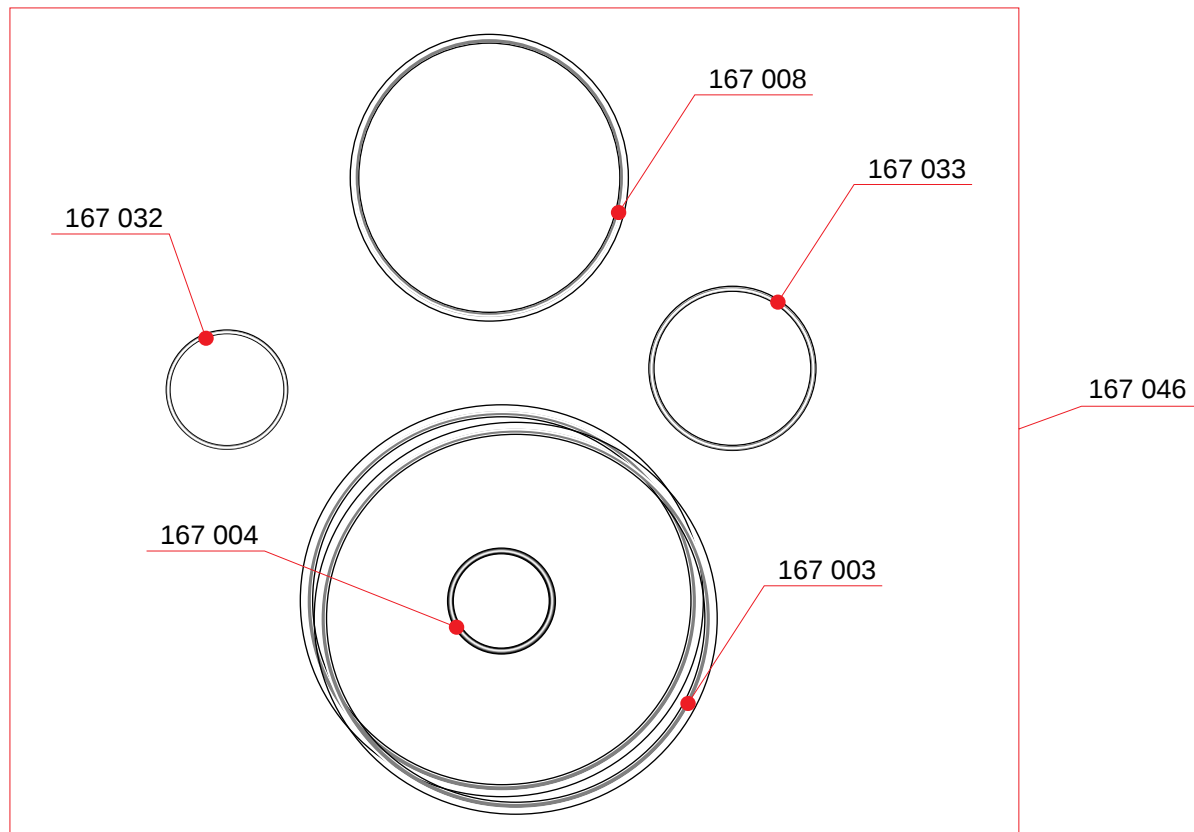
Injection valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 001	End cup	1	1.3	167 011	Push rod	1	-
167 002	Nut	1	-	167 012	Fixing pin	1	-
167 003	O-ring	2	-	167 013	Nozzle nut	1	0.2
167 004	Sealing ring		-	167 020	Nozzle	1	0.2
167 007	Screw	1	0.3				
167 008	O-ring	1	-				
167 010	Spring	1	-				

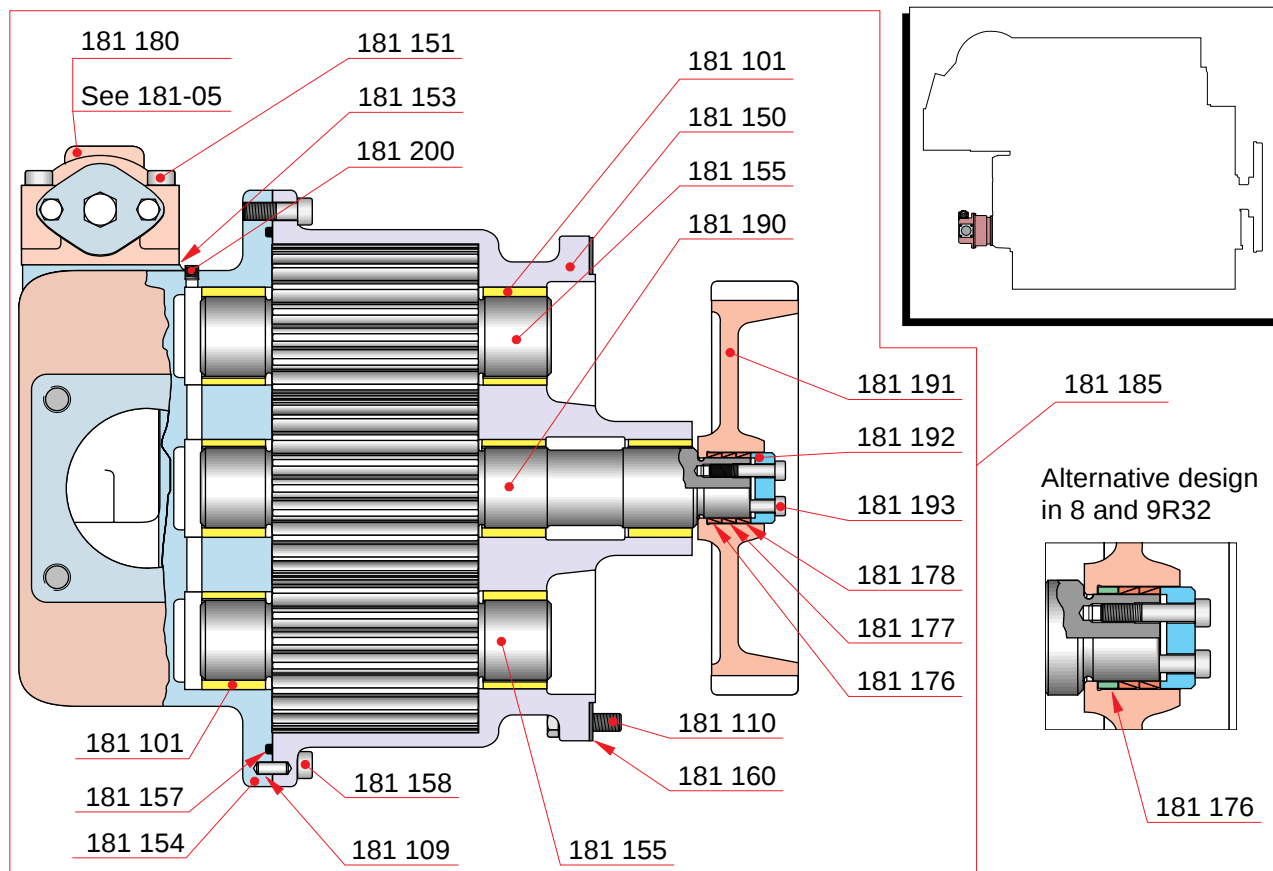
Edition: A
 Page: 4(4)
 Updated: 15.06.1995

Injection valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 046	Sealing set	1	-				
167 003	O-ring	2	-				
167 004	Sealing ring	1	-				
167 008	O-ring	1	-				
167 032	O-ring	1	-				
167 033	O-ring	1	-				

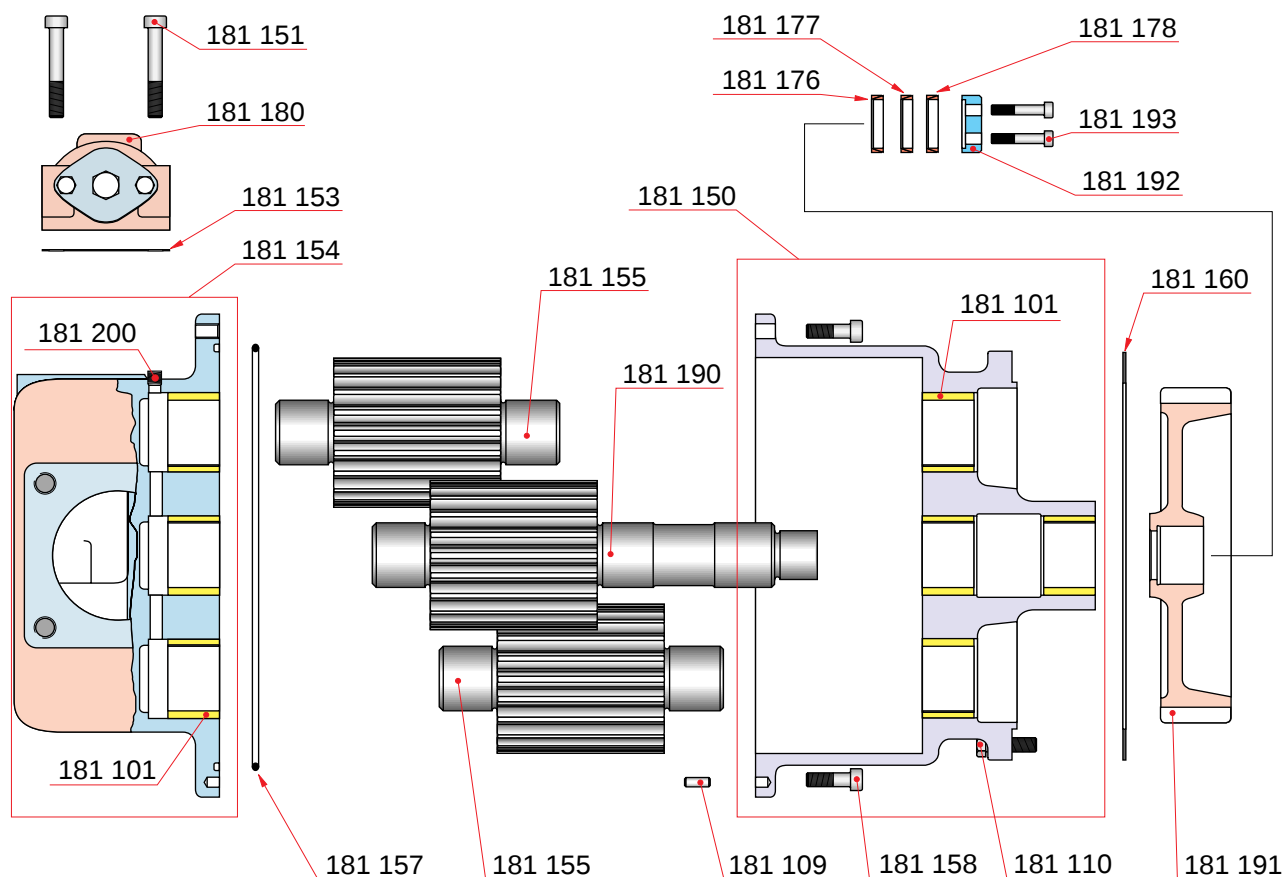
Lubricating oil pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
181 185	Lubricating oil pump	1	-				
181 109	Cylindrical pin	2	-				
181 110	Screw	6	-				
181 150	Housing with bearings	1	45.0				
181 101	Bearing	4	0.3				
181 151	Screw	4	0.1				
181 153	Gasket	1	-				
181 154	Cover with bearings	1	36.9				
181 101	Bearing	3	0.3				
181 200	Plug	1	-				
181 155	Secondary gear wheel	2	9.1				
181 157	O-ring	1	-				
181 158	Screw	12	-				
181 160	Gasket	1	-				
181 176	Distance ring or pair of friction rings	1	-				
181 177	Pair of friction rings	1	-				
181 178	Pair of friction rings	1	-				
181 180	Pressure control valve, compl.	1	13.0				
181 190	Drive shaft with gear wheel	1	11.1				
181 191	Drive gear wheel	1	13.8				
181 192	Pressure plate	1	0.3				
181 193	Screw	4	-				

Edition: F
 Page: 2(4)
 Updated: 27.05.2005

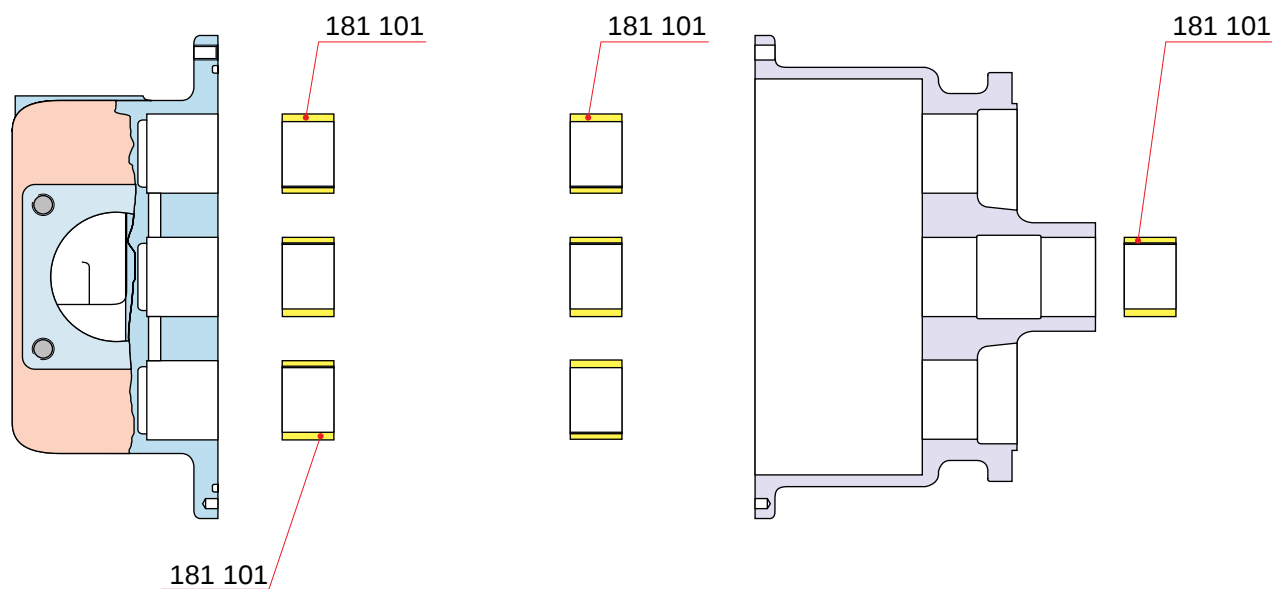
Lubricating oil pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]
181 109	Cylindrical pin	2	-
181 110	Screw	6	-
181 150	Housing with bearings	1	45.0
181 101	Bearing	4	0.3
181 151	Screw	4	0.1
181 153	Gasket	1	-
181 154	Cover with bearings	1	36.9
181 101	Bearing	3	0.3
181 200	Plug	1	-
181 155	Secondary gear wheel	2	9.1
181 157	O-ring	1	-
181 158	Screw	12	-
181 160	Gasket	1	-
181 176	Distance ring or pair of friction rings	1	-
181 177	Pair of friction rings	1	-
181 178	Pair of friction rings	1	-
181 180	Pressure control valve, compl.	1	13.0
181 190	Drive shaft with gear wheel	1	11.1
181 191	Drive gear wheel	1	13.8

Part No.	Description	Qty [Pcs]	Wt. [Kg]
181 192	Pressure plate	1	0.3
181 193	Screw	4	-

Lubricating oil pump

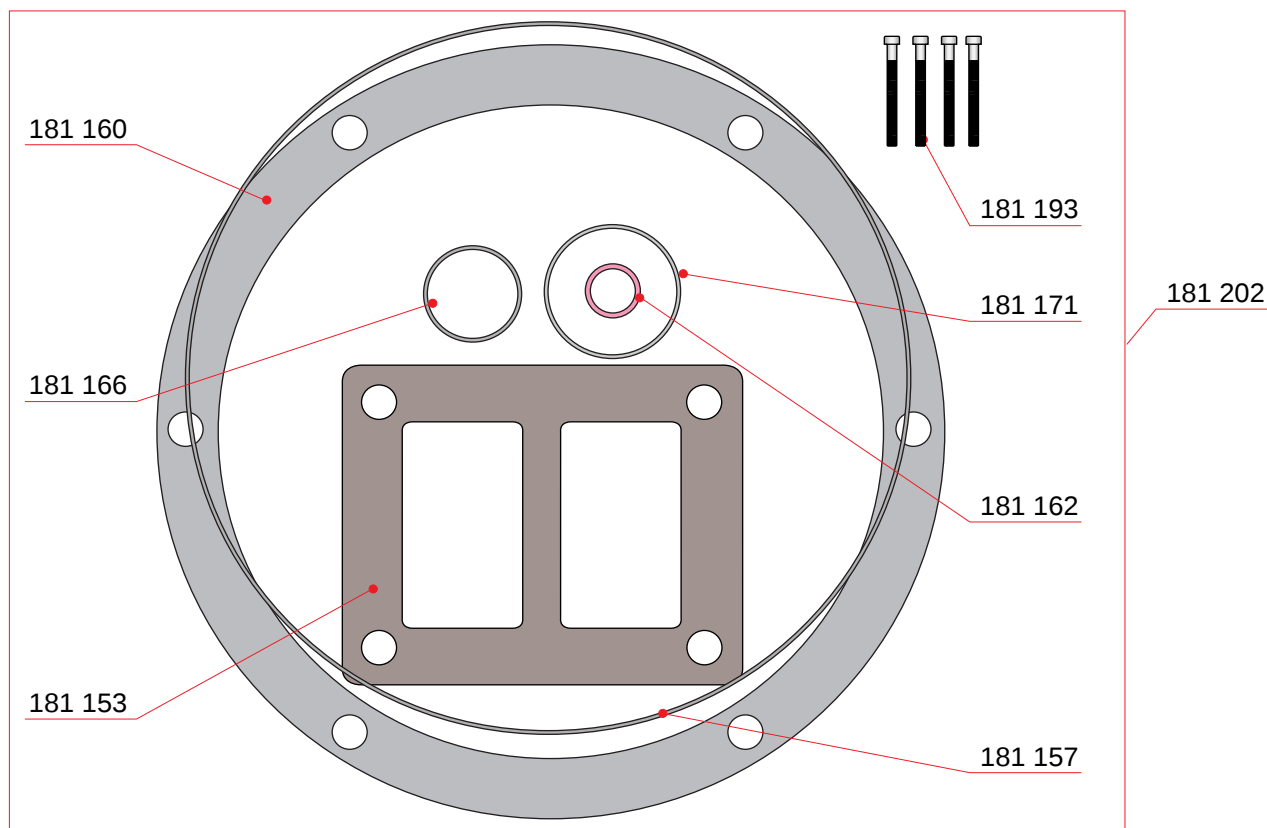


Part No.	Description	Qty [Pcs]	Wt. [Kg]
181 101	Bearing	7	0.3

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

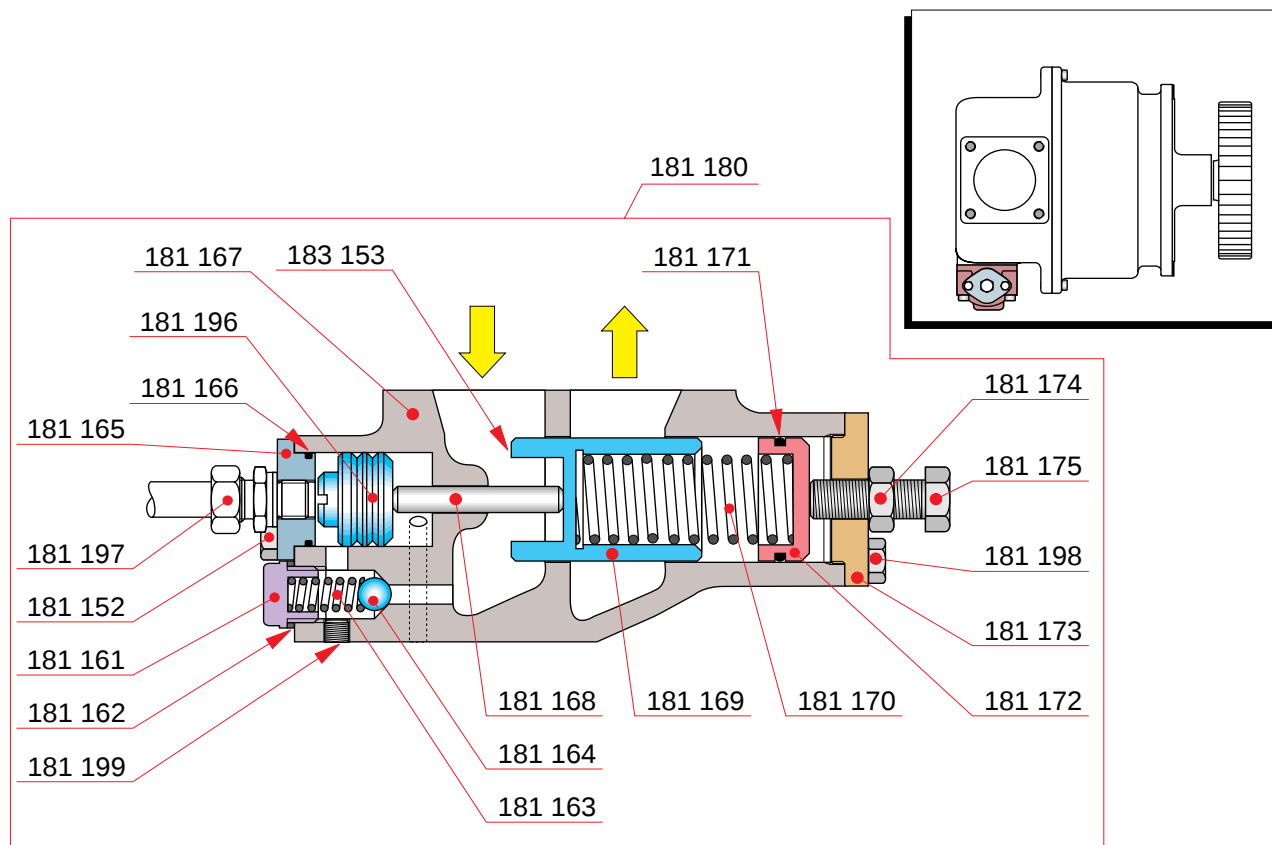
Edition: F
 Page: 4(4)
 Updated: 27.05.2005

Lubricating oil pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
181 202	Sealing set	1	-				
181 153	Gasket	1	-				
181 157	O-ring	1	-				
181 160	Gasket	1	-				
181 162	Sealing ring	1	-				
181 166	O-ring	1	-				
181 171	O-ring	1	-				
181 193	Screw	4	-				

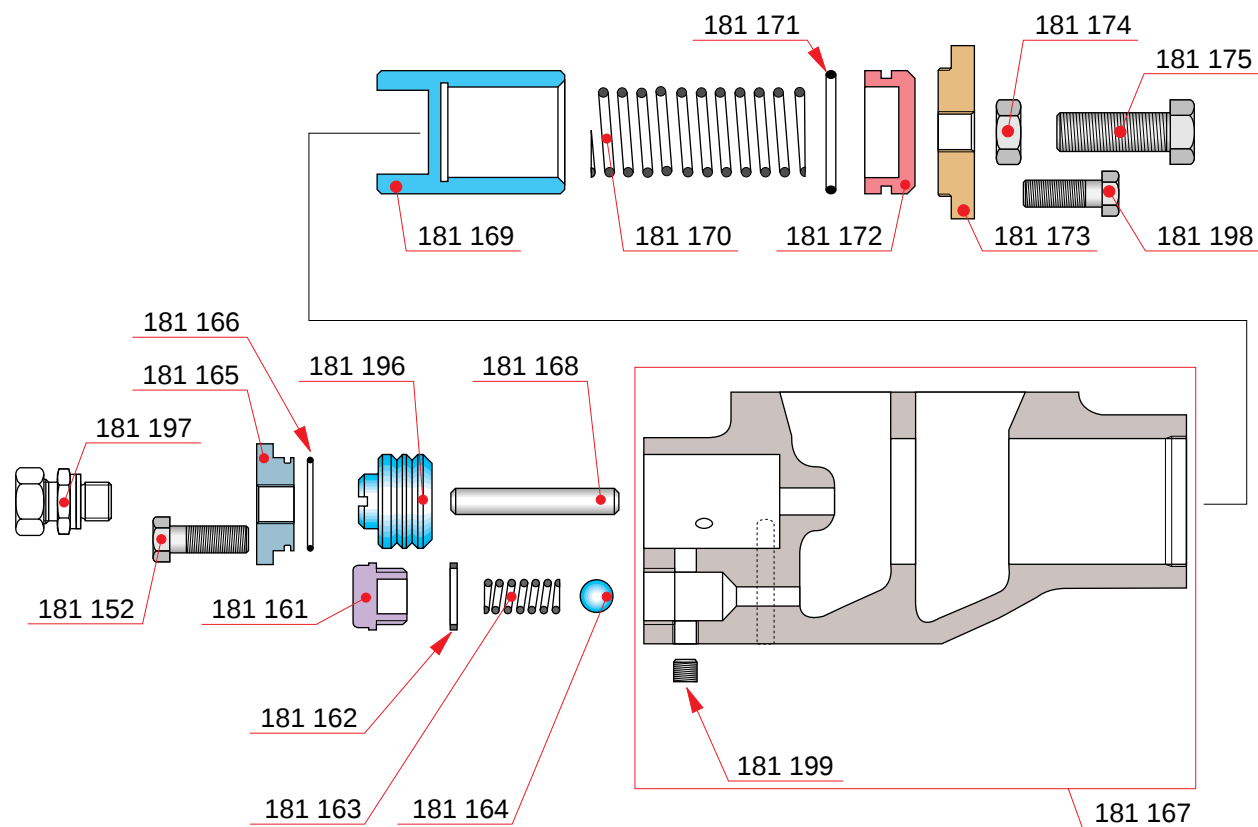
Pressure control valve for lubricating oil



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
181 180	Pressure control valve, compl.	1	13.0				
181 152	Screw	2	-				
181 161	Plug	1	-				
181 162	Sealing ring	1	-				
181 163	Spring	1	-				
181 164	Bearing ball	1	-				
181 165	Flange	1	0.2				
181 166	O-ring	1	-				
181 167	Control valve housing	1	9.9				
181 199	Plug	3	-				
181 168	Guiding pin	1	-				
181 169	Regulating piston	1	0.6				
183 153	Screw	3	-				
181 170	Spring	1	0.3				
181 171	O-ring	1	-				
181 172	Spring retainer	1	0.2				
181 173	Flange	1	0.5				
181 174	Nut	1	-				
181 175	Screw	1	-				
181 196	Servo piston	1	0.5				
181 197	Pipe union	1	-				
181 198	Screw	2	-				

Edition: B
Page: 2(2)
Updated: 17.05.2004

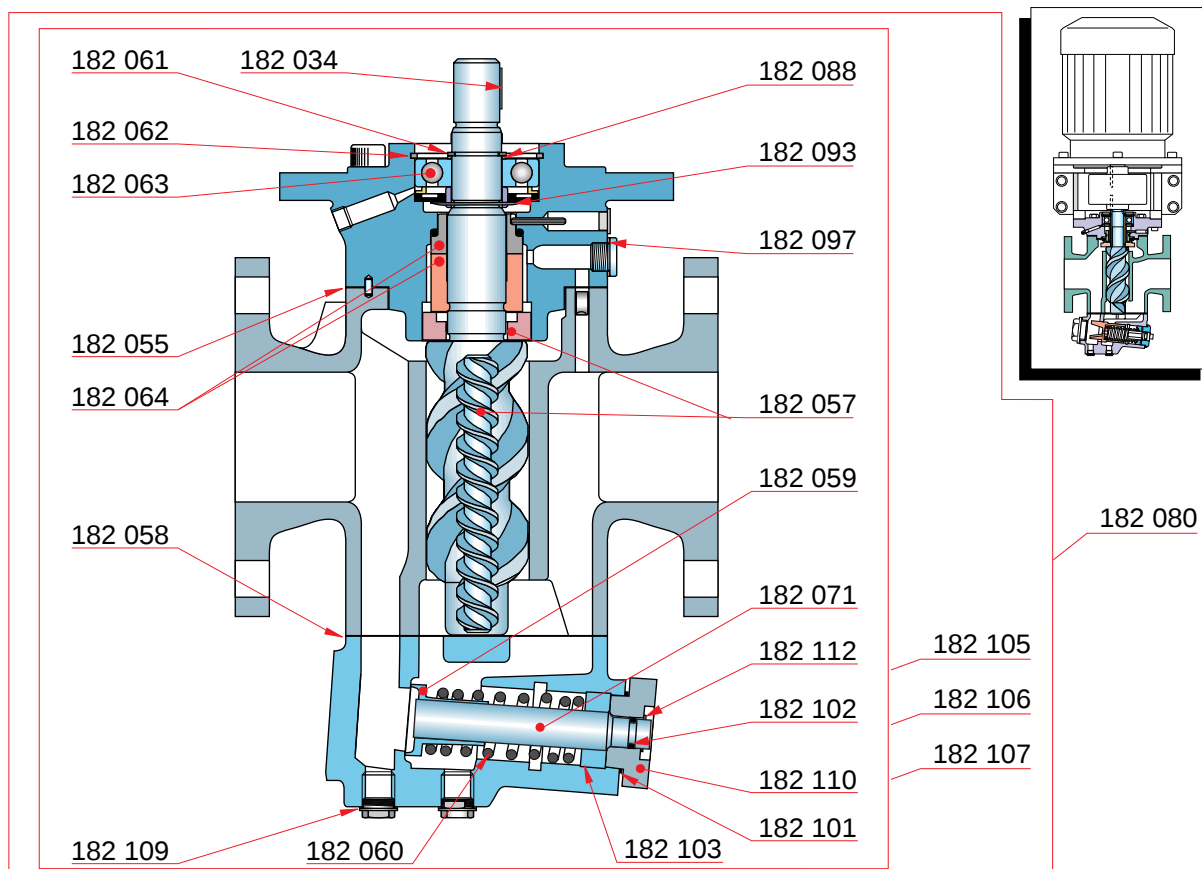
Pressure control valve for lubricating oil



Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

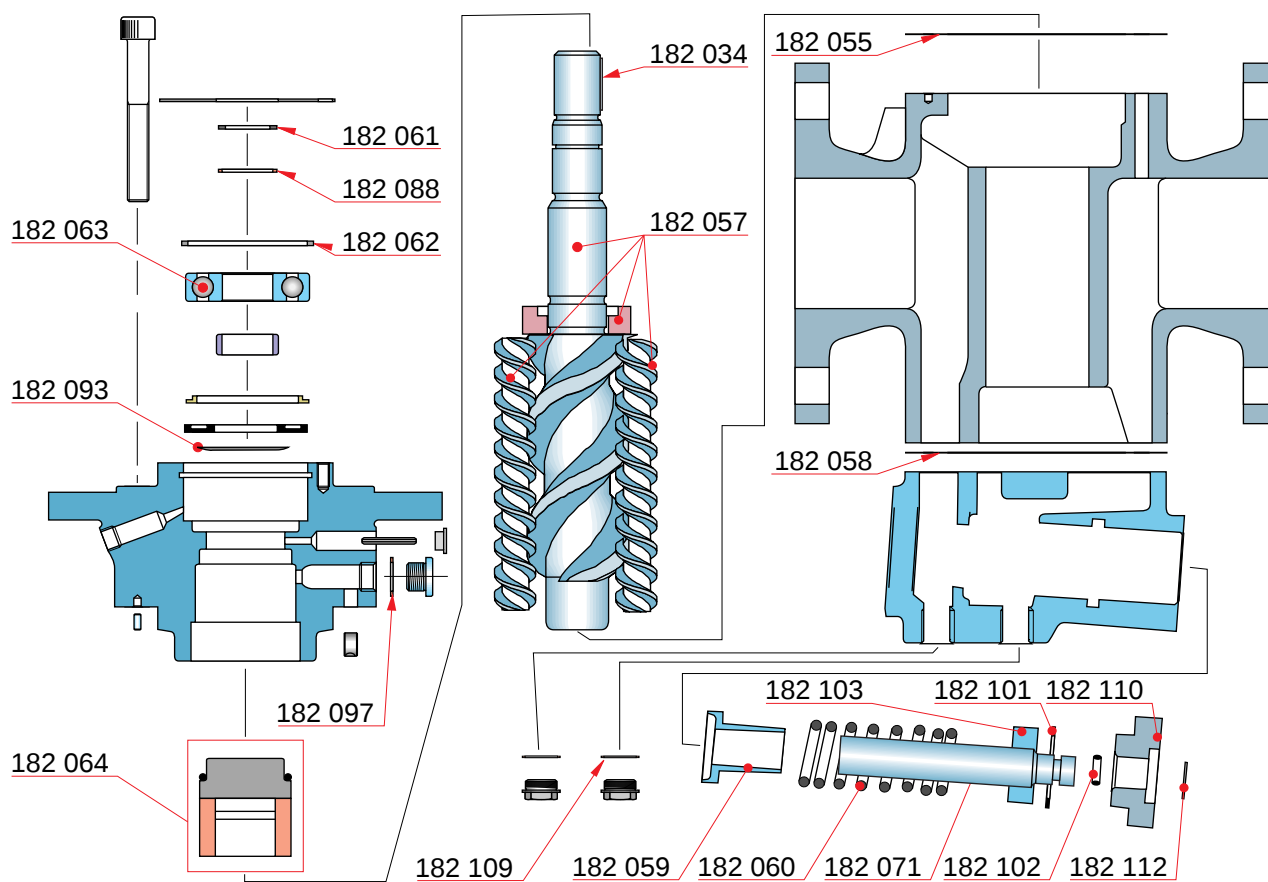
Prelubricating oil pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
182 080	Prelubricating pump	1	-	NOTE!	(1) Spare part set 182 105 includes part numbers marked (1) and (2)		
182 034	Key (4)	1	-	NOTE!	(2) Spare part set 182 106 includes part numbers marked (2).		
182 055	Joint (2)	1	-	NOTE!	(3) Spare part set 182 107 includes part numbers marked (3)		
182 058	Joint (2)	1	-	NOTE!	(4) Screw set 182 057 includes part numbers marked (4)		
182 059	Valve piston (3)	1	0.2	NOTE!	Only spare part sets (182 105 - 107), screw set 182 057 and part numbers 182 063 and 182 064 can be ordered.		
182 060	Valve spring (3)	1	-				
182 061	Retainer ring (2)	1	-				
182 062	Retainer ring (2)	1	-				
182 063	Bearing (1)	1	-				
182 064	Shaft seal (1)	1	-				
182 071	Valve spindle (3)	1	0.1				
182 088	Support ring (2)	1	-				
182 093	Nilos-ring (2)	1	-				
182 097	Sealing ring (2)	1	-				
182 101	Sealing ring (2) (3)	1	-				
182 102	O-ring (2) (3)	1	-				
182 103	Regulating nut (3)	1	-				
182 109	Sealing ring (2)	1	-				
182 110	Cover (3)	1	-				
182 112	Retainer ring (2) (3)	1	-				
182 057	Screw set	1	4.8				
182 105	Sealing set	1	4.9				
182 106	Sealing set	1	-				
182 107	Sealing set	1	7.1				

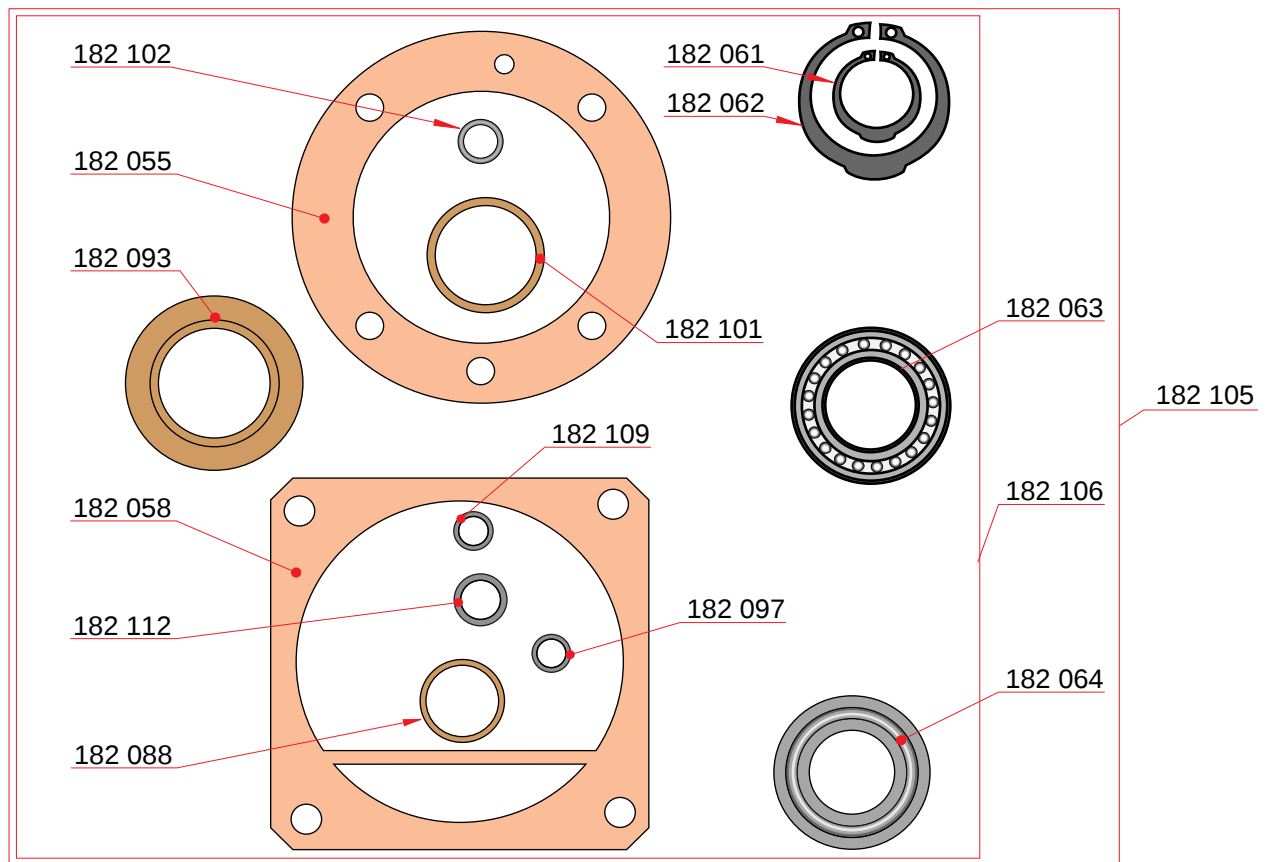
Edition: A
 Page: 2(4)
 Updated: 06.06.2003

Prelubricating oil pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
182 034	Key	1	-	182 103	Regulating nut	1	-
182 055	Joint	1	-	182 101	Sealing ring	1	-
182 057	Screw set	1	4.8	182 110	Cover	1	-
182 058	Joint	1	-	182 112	Retainer ring	1	-
182 059	Valve piston	1	0.2				
182 060	Valve spring	1	-				
182 061	Retainer ring	1	-				
182 062	Retainer ring	1	-				
182 063	Bearing	1	-				
182 064	Shaft seal	1	-				
182 071	Valve spindle	1	0.1				
182 088	Support ring	1	-				
182 093	Nilos-ring	1	-				
182 097	Sealing ring	1	-				
182 101	Sealing ring	1	-				
182 102	O-ring	1	-				
182 103	Regulating nut	1	-				
182 109	Sealing ring	1	-				

Prelubricating oil pump

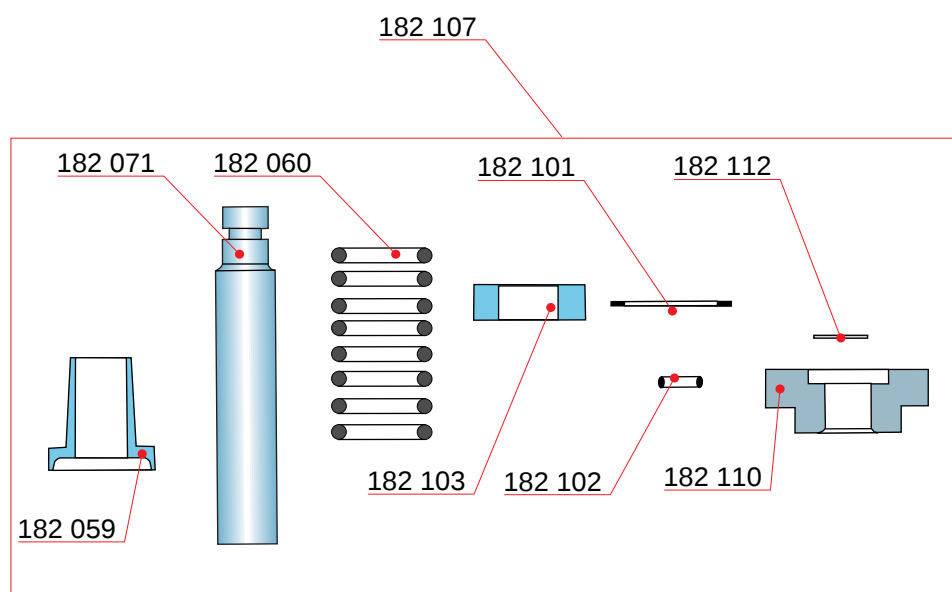


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
182 105	Sealing set	1	4.9				
182 063	Bearing	1	-				
182 064	Shaft seal	1	-				
182 106	Sealing set	1	-				
182 055	Joint	1	-				
182 058	Joint	1	-				
182 061	Retainer ring	1	-				
182 062	Retainer ring	1	-				
182 088	Support ring	1	-				
182 093	Nilos-ring	1	-				
182 097	Sealing ring	1	-				
182 101	Sealing ring	1	-				
182 102	O-ring	1	-				
182 109	Sealing ring	1	-				
182 112	Retainer ring	1	-				

NOTE! Only spare part sets (182 105 - 107), screw set 182 057 and part numbers 182 063 and 182 064 can be ordered.

Edition: A
 Page: 4(4)
 Updated: 06.06.2003

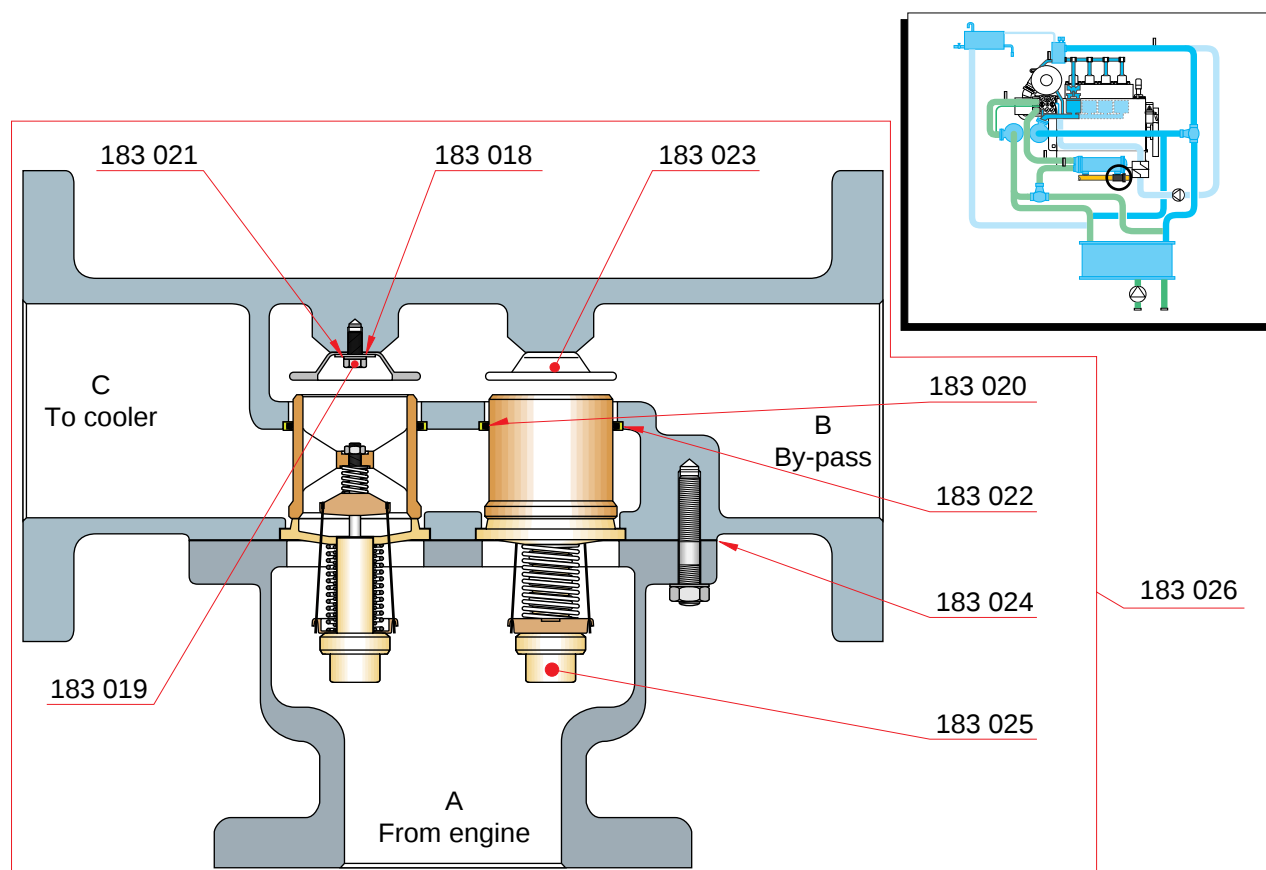
Prelubricating oil pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
182 107	Sealing set	1	7.1				
182 059	Valve piston	1	0.2				
182 060	Valve spring	1	-				
182 071	Valve spindle	1	0.1				
182 101	Sealing ring	1	-				
182 102	O-ring	1	-				
182 103	Regulating nut	1	-				
182 110	Cover	1	-				
182 112	Retainer ring	1	-				

NOTE! Only spare part sets (182 105 - 107), screw set 182 057 and part numbers 182 063 and 182 064 can be ordered.

Thermostatic valve for lubricating oil

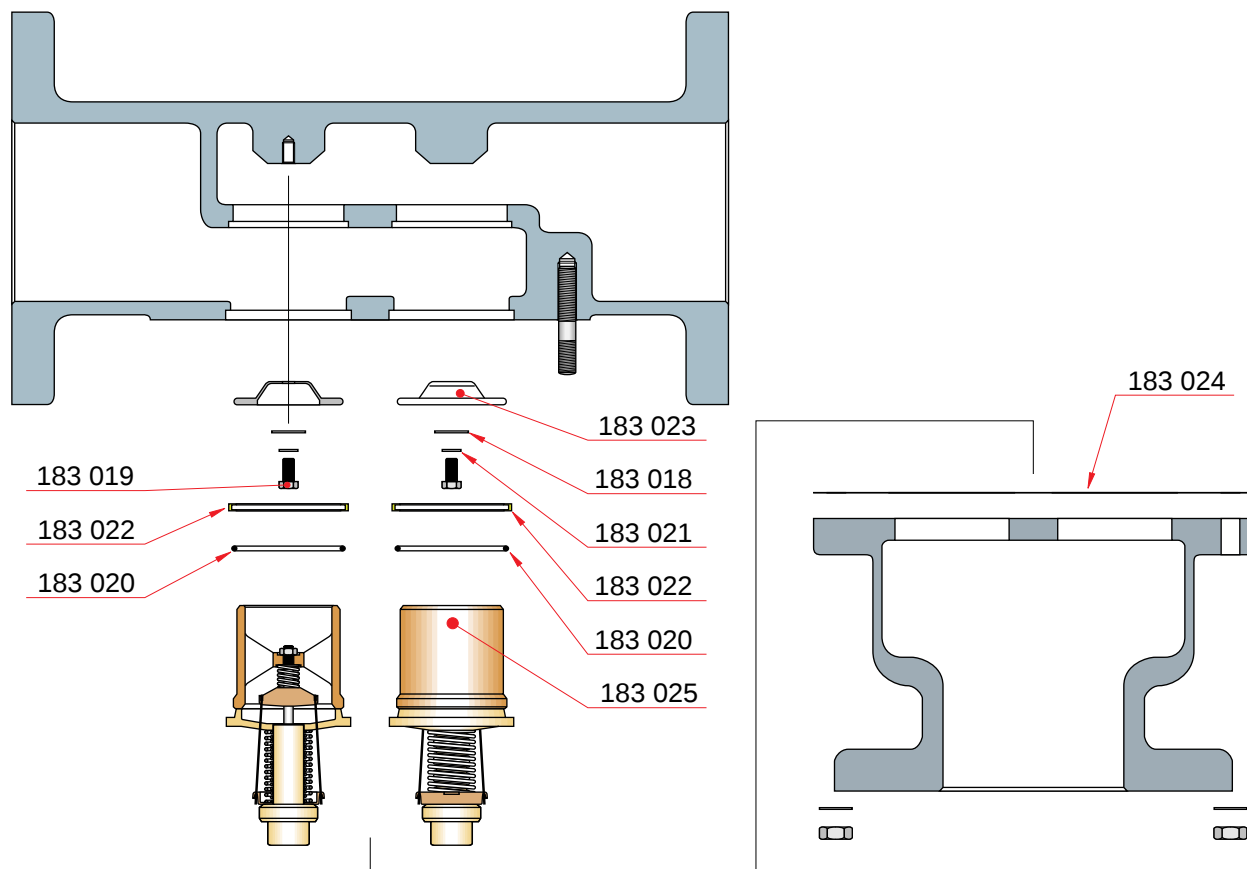


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
183 026	Thermostatic valve, compl.	1	28.3				
183 018	Support washer	*	-				
183 019	Screw	*	-				
183 020	O-ring	*	-				
183 021	Washer	*	-				
183 022	Sleeve	*	0.7				
183 023	Seat	*	-				
183 024	Gasket	1	-				
183 025	Thermostatic element	*	-				

NOTE! * See page 3

Edition: B
 Page: 2(3)
 Updated: 25.01.1994

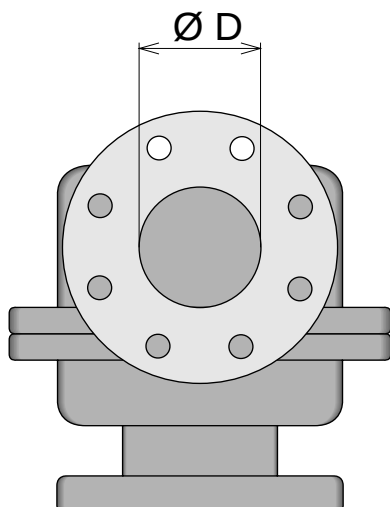
Thermostatic valve for lubricating oil



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
183 018	Support washer	*	-				
183 019	Screw	*	-				
183 020	O-ring	*	-				
183 021	Washer	*	-				
183 022	Sleeve	*	0.7				
183 023	Seat	*	-				
183 024	Gasket	1	-				
183 025	Thermostatic element	*	-				

NOTE! * See page 3

Thermostatic valve for lubricating oil



Quantity according to size of thermostatic valve

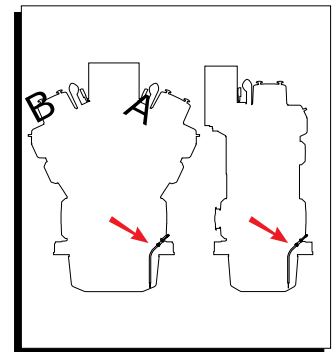
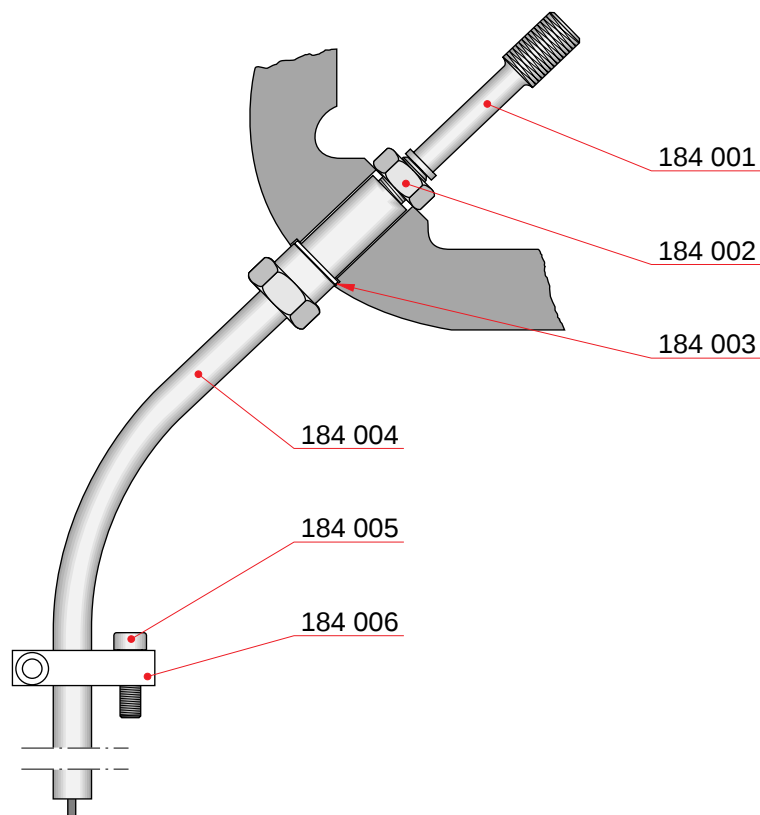
Ø D inch/mm Part No	Pieces			
	Ø 3/80	Ø 4/100	Ø 5/125	Ø 6/150
183 018	2	4	6	9
183 019	2	4	6	9
183 020	2	4	6	9
183 021	2	4	6	9
183 022	2	4	6	9
183 023	2	4	6	9
183 025	2	4	6	9

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Oil dipstick

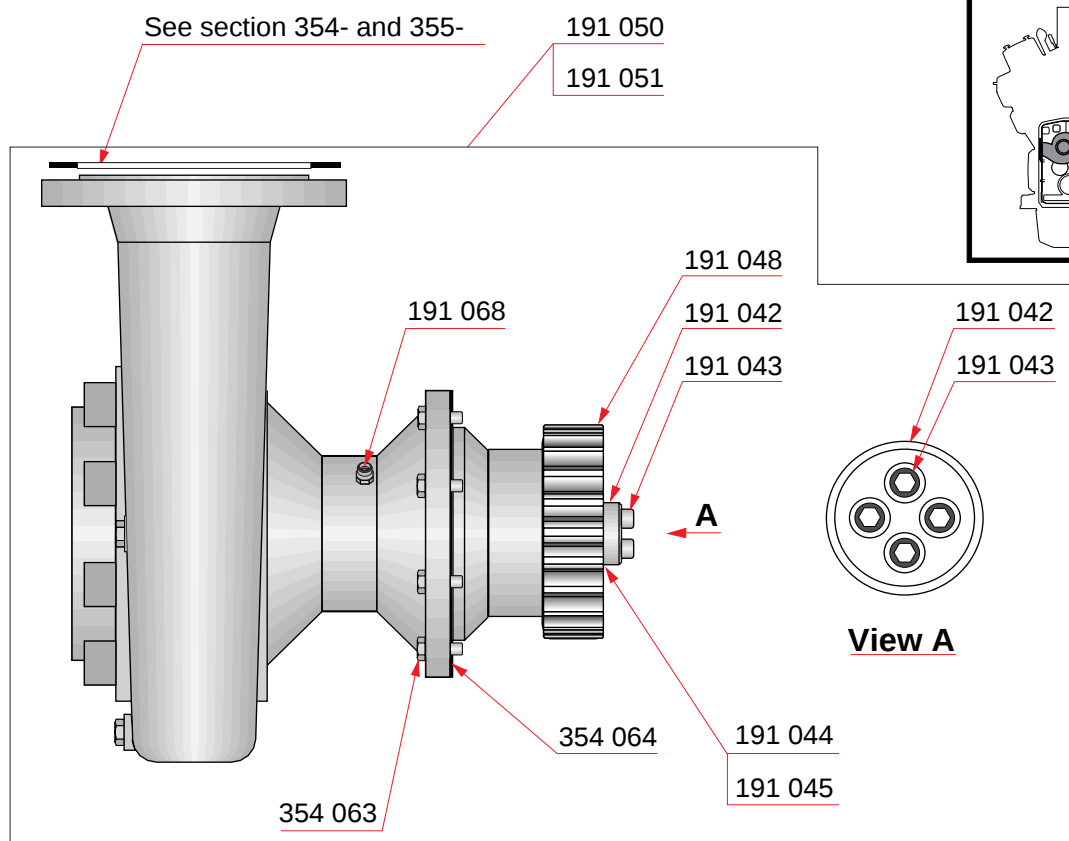


Part No.	Description	Qty [Pcs]	Wt. [Kg]
184 001	Dipstick	1	0.1
184 002	Nut	1	-
184 003	Sealing ring	1	-
184 004	Protecting pipe	1	0.3
184 005	Screw	2	-
184 006	Pipe clamp	1	0.2

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Water pump

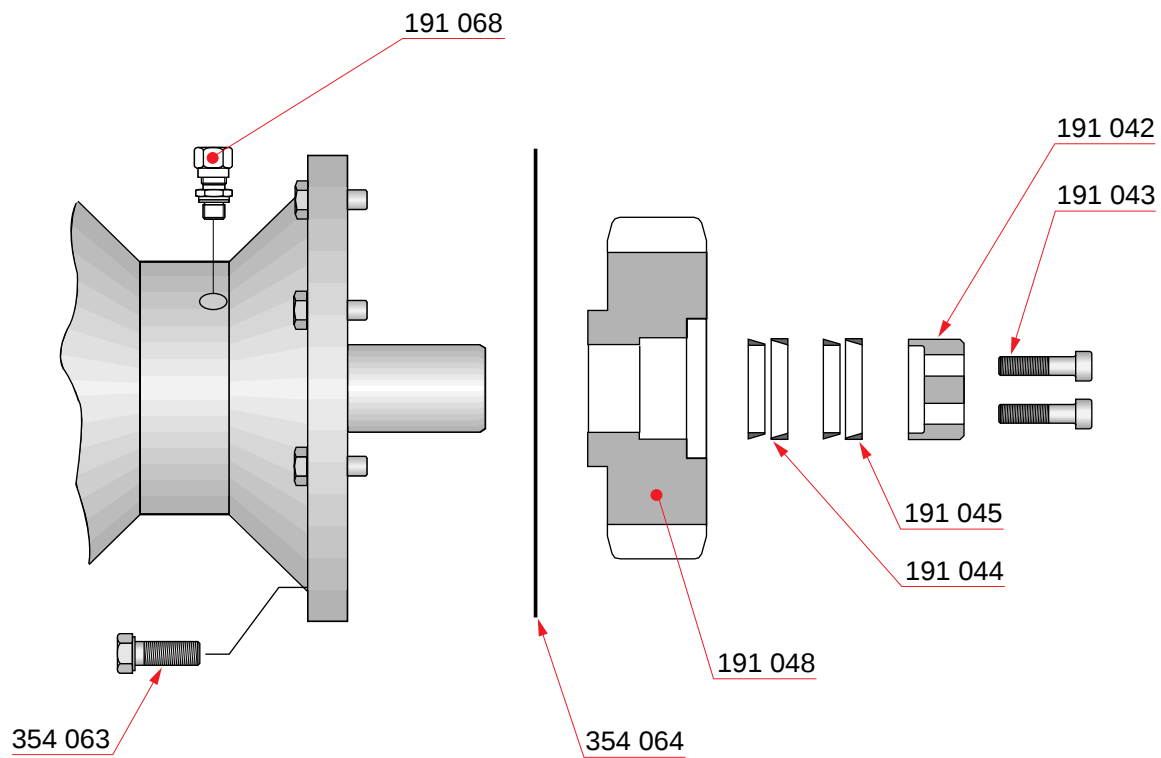


Part No.	Description	Qty [Pcs]	Wt. [Kg]
191 050	HT water pump, compl.	1	-
191 051	LT water pump ,compl.	1	-
191 042	Pressure plate	1	-
191 043	Screw	4	-
191 044	Pair of friction rings	1	-
191 045	Pair of friction rings	1	-
191 048	Drive gear wheel	1	-
191 068	Pipe union	1	-
354 063	Screw	8	-
354 064	Gasket	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Edition: H
Page: 2(5)
Updated: 28.01.2004

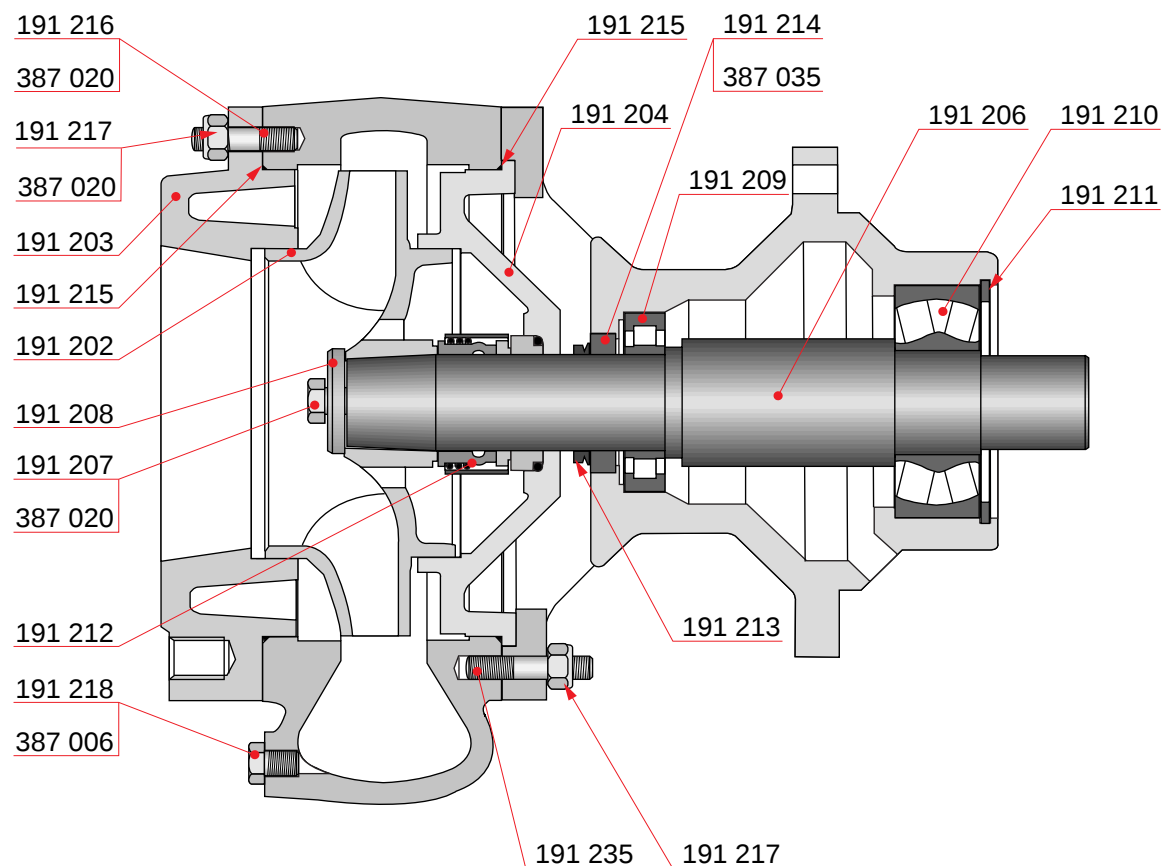
Water pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

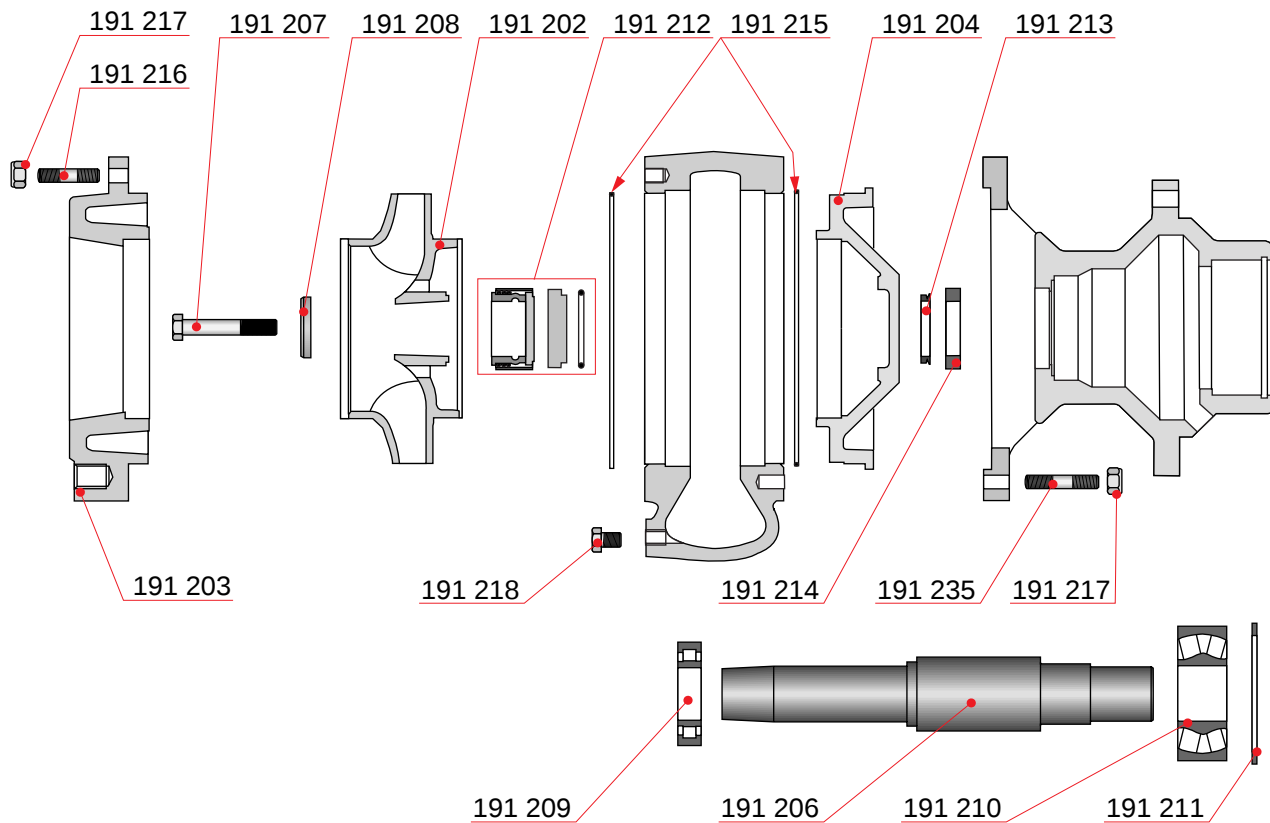
Water pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
191 202	Impeller *)	1	-	NOTE!	*) When ordering the impeller, the size and the pump type must be given.		
191 203	Cover	1	-				
191 204	Flange	1	-				
191 206	Shaft	1	-				
191 207	Screw	1	-				
191 208	Washer	1	-				
191 209	Bearing	1	-				
191 210	Bearing	1	-				
191 211	Retainer ring	1	-				
191 212	Shaft seal	1	-				
191 213	V-ring	1	-				
191 214	Sealing ring	1	-				
191 215	O-ring	2	-				
191 216	Screw	8	-				
191 217	Nut	14	-				
191 218	Plug	3	-				
191 235	Screw	6	-				
387 006	Glue compound	1	-				
387 020	Glue compound	1	-				
387 035	Glue compound	1	-				

Edition: H
 Page: 4(5)
 Updated: 28.01.2004

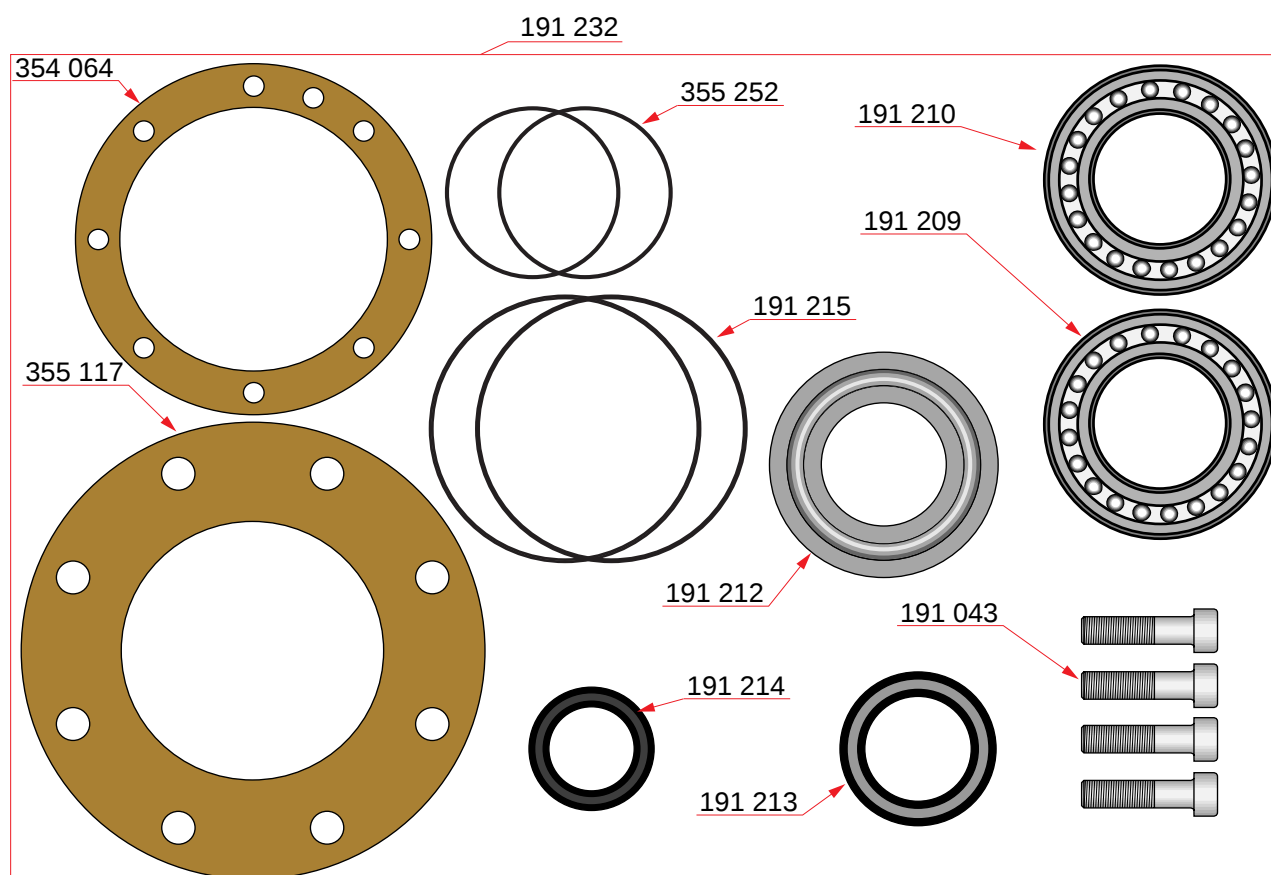
Water pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

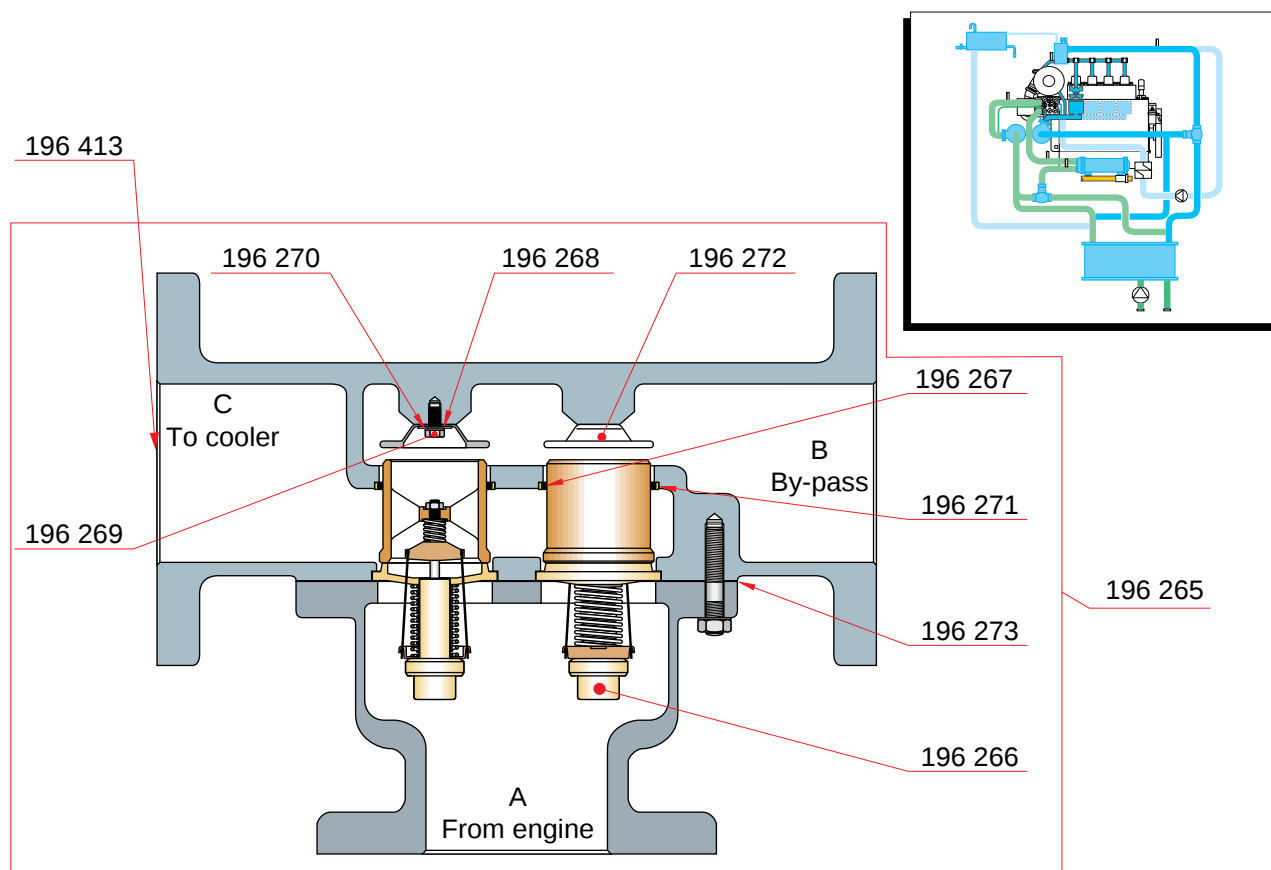
Water pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
191 232	Spare part kit	1	-				
191 043	Screw	4	-				
191 209	Bearing	1	-				
191 210	Bearing	1	-				
191 212	Shaft seal	1	-				
191 213	V-ring	1	-				
191 214	Sealing ring	1	-				
191 215	O-ring	2	-				
354 064	Gasket	1	-				
355 117	Gasket	1	-				
355 252	O-ring	2	-				

This page is intentionally left blank.

Thermostatic valve for LT water

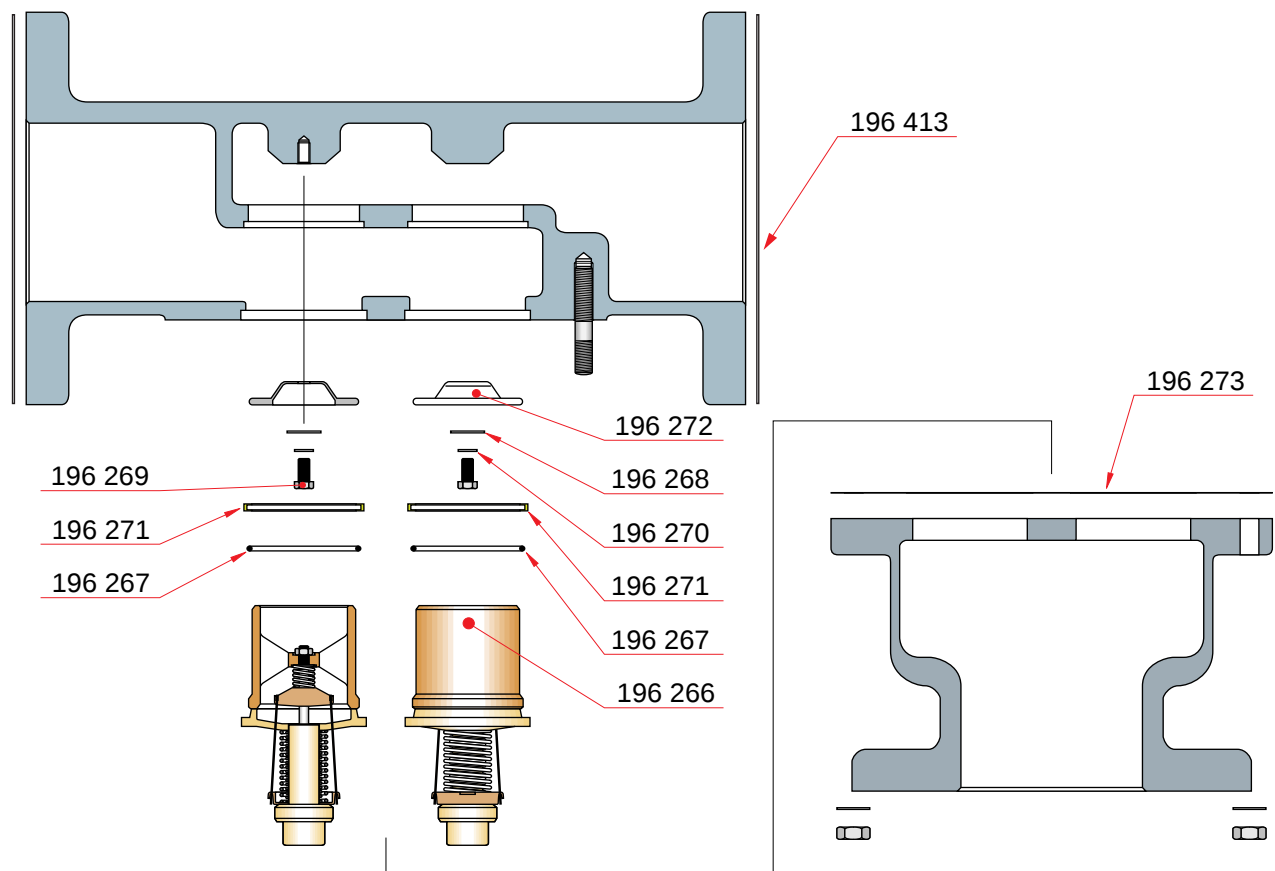


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
196 265	Thermostatic valve, compl.	1	-				
196 266	Thermostatic element	*	0.7				
196 267	O-ring	*	-				
196 268	Washer	*	-				
196 269	Screw	*	-				
196 270	Lock washer	*	-				
196 271	Sleeve	*	-				
196 272	Seat	*	-				
196 273	Gasket	1	0.2				
196 413	Gasket	3	-				

NOTE! * See page 3

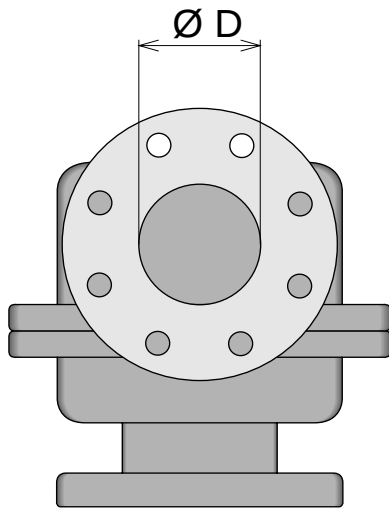
Edition: B
Page: 2(3)
Updated: 23.10.2003

Thermostatic valve for LT water



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

Thermostatic valve for LT water



Quantity according to size of thermostatic valve

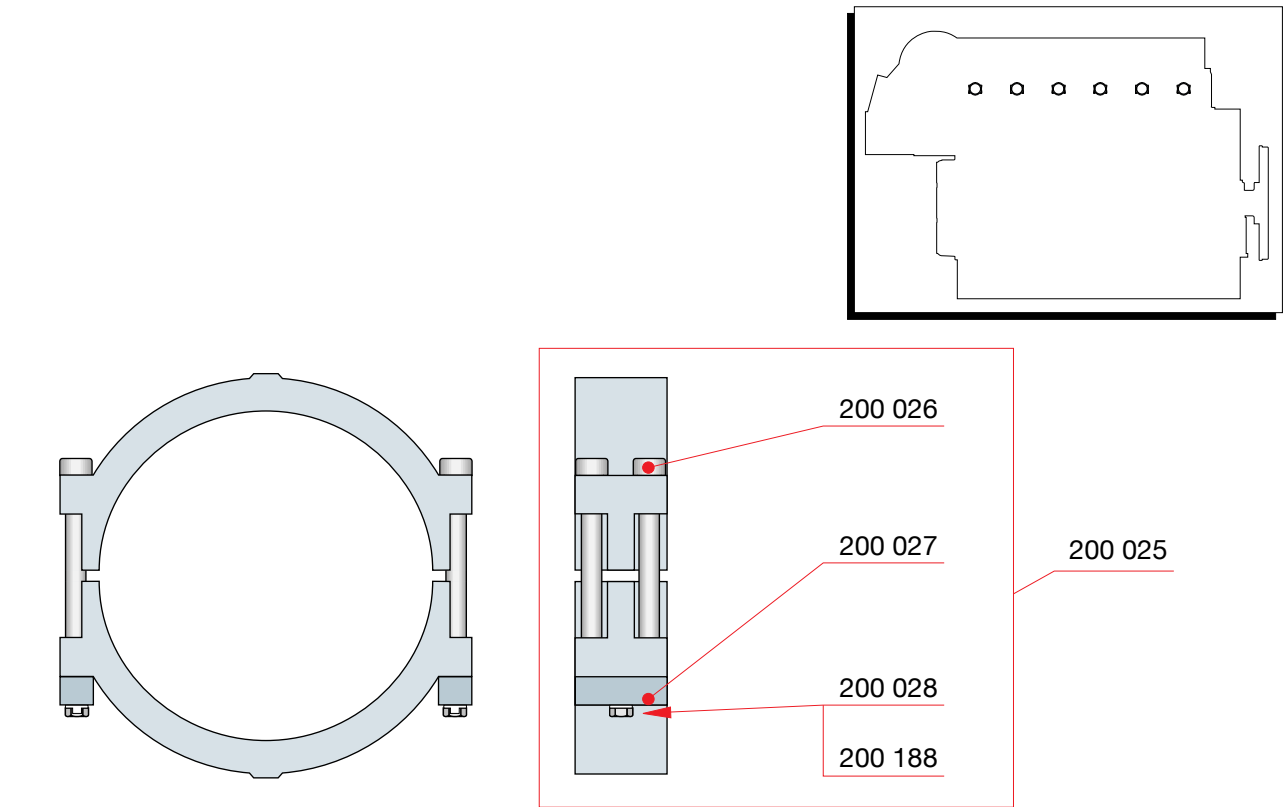
Ø D inch/mm Part No	Pieces			
	Ø 3/80	Ø 4/100	Ø 5/125	Ø 6/150
196 266	2	4	6	9
196 267	2	4	6	9
196 268	2	4	6	9
196 269	2	4	6	9
196 270	2	4	6	9
196 271	2	4	6	9
196 272	2	4	6	9

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

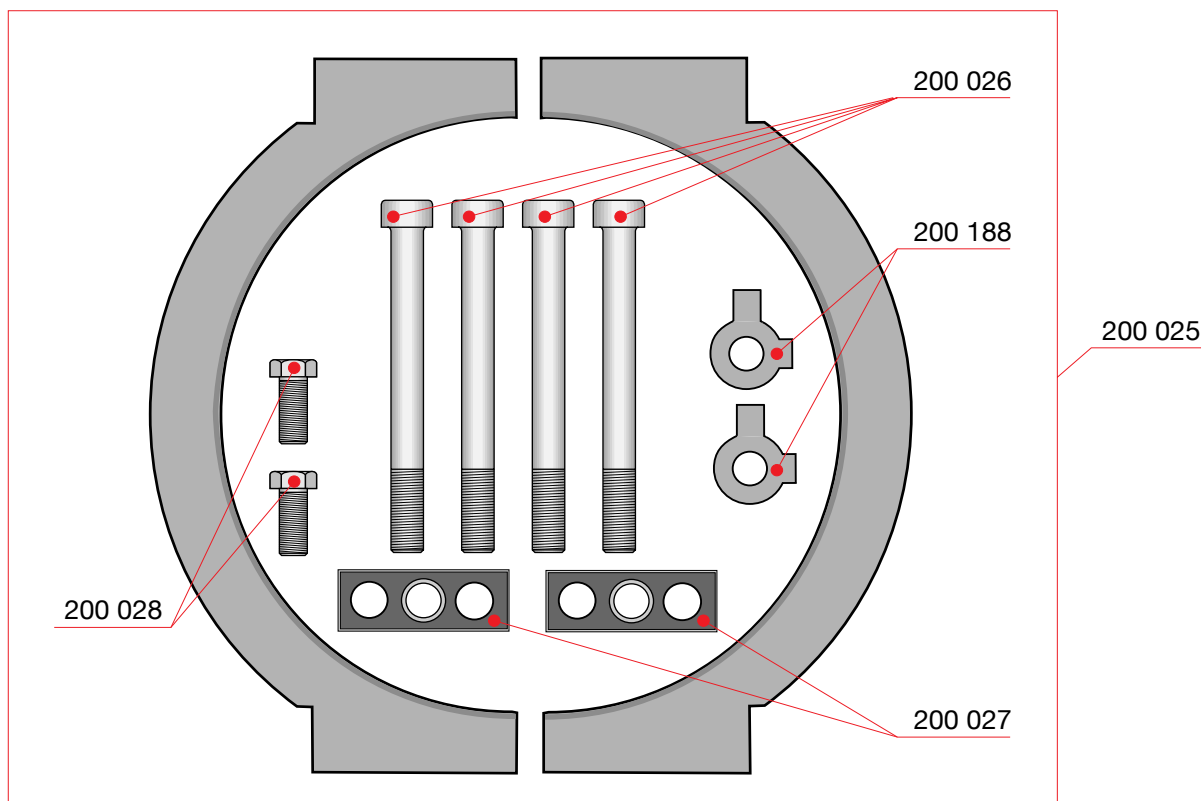
Two-part ring for exhaust manifold



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
200 025	Two-part ring	1	3.8				
200 026	Screw	4	-				
200 027	Double nut	2	-				
200 028	Screw	2	-				
200 188	Tab washer	2	-				

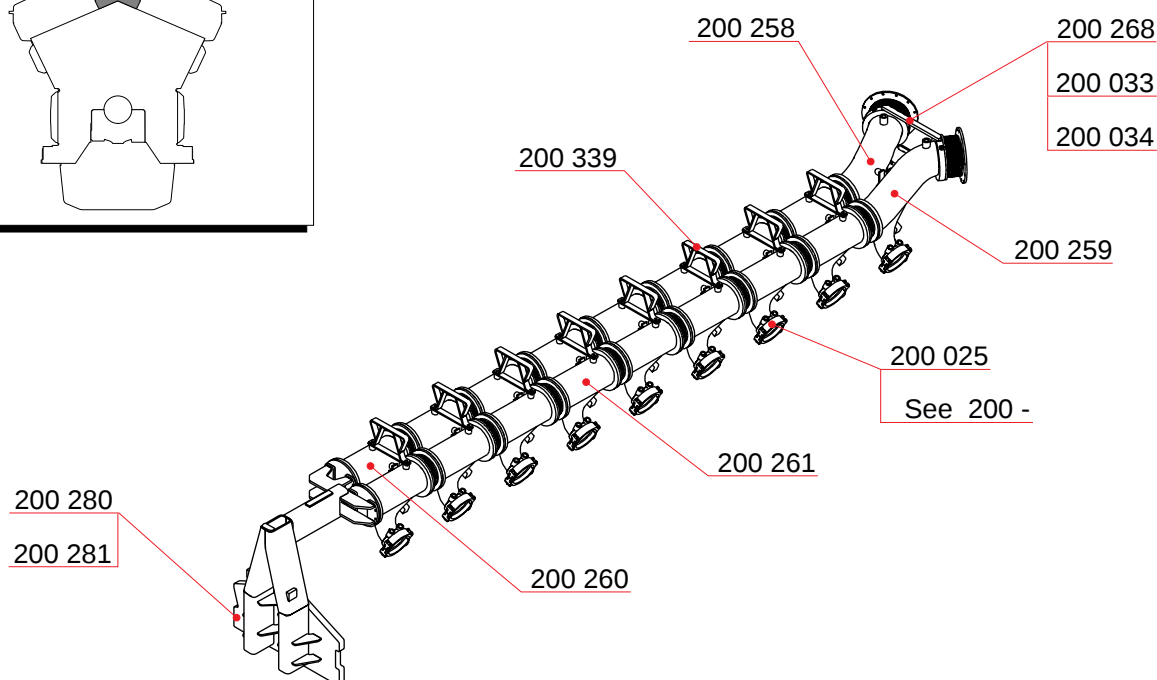
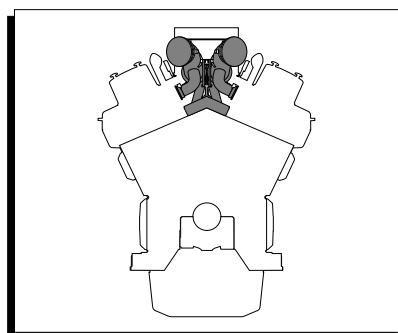
Edition: A
 Page: 2(2)
 Updated: 30.09.1994

Two-part ring for exhaust manifold



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
200 025	Two-part ring	1	3.8				
200 026	Screw	4	-				
200 027	Double nut	2	-				
200 028	Screw	2	-				
200 188	Tab washer	2	-				

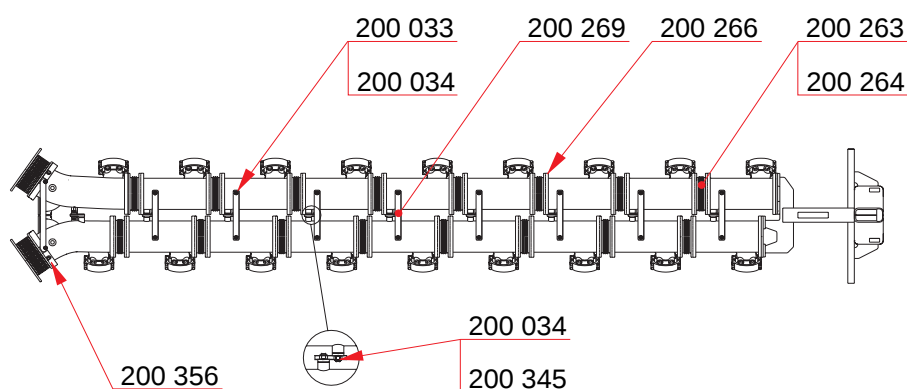
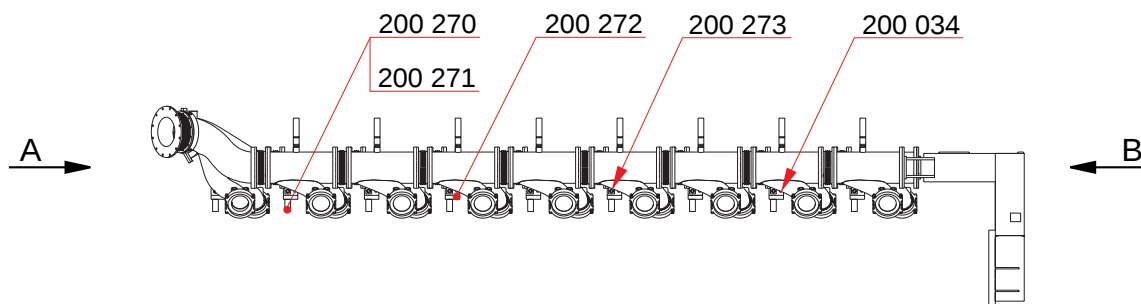
Exhaust system V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
200 025	Two-part ring	18	3.8				
200 033	Screw	18	-				
200 034	Self-locking nut	69	-				
200 258	Exhaust pipe	1	-				
200 259	Exhaust pipe	1	-				
200 260	Exhaust pipe	8	-				
200 261	Exhaust pipe	8	-				
200 268	Support	1	2.8				
200 280	Support	1	278				
200 281	Distance sleeve	41	0.1				
200 339	Support	8	1.0				

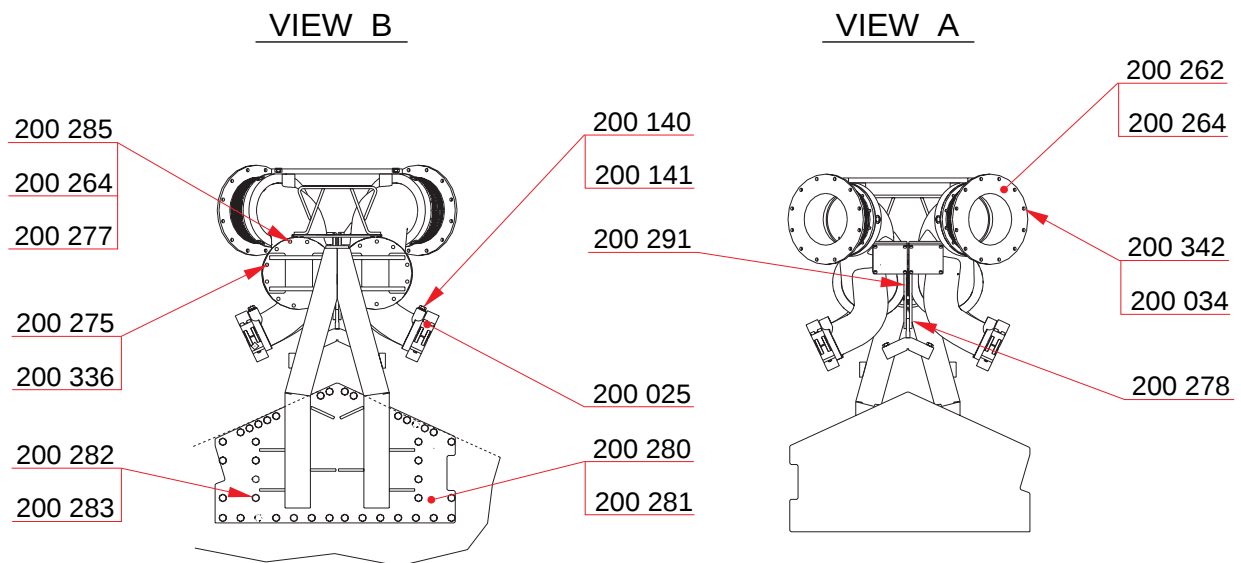
Edition: A
 Page: 2(3)
 Updated: 16.12.1999

Exhaust system V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
200 033	Screw	18	-				
200 034	Self-locking nut	69	-				
200 263	Bellows	16	7.0				
200 264	Gasket	38	-				
200 266	Screw	400	-				
200 269	Support	8	3.3				
200 270	Bracket	9	3.8				
200 271	Screw	18	0.1				
200 272	Support	16	0.6				
200 273	Screw	18	-				
200 345	Screw	18	-				
200 356	Screw	24	-				

Exhaust system V32

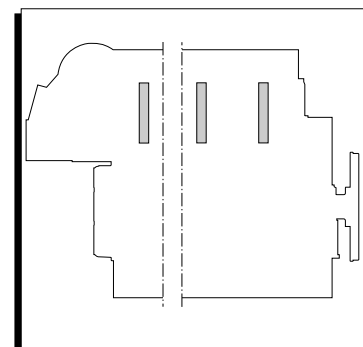
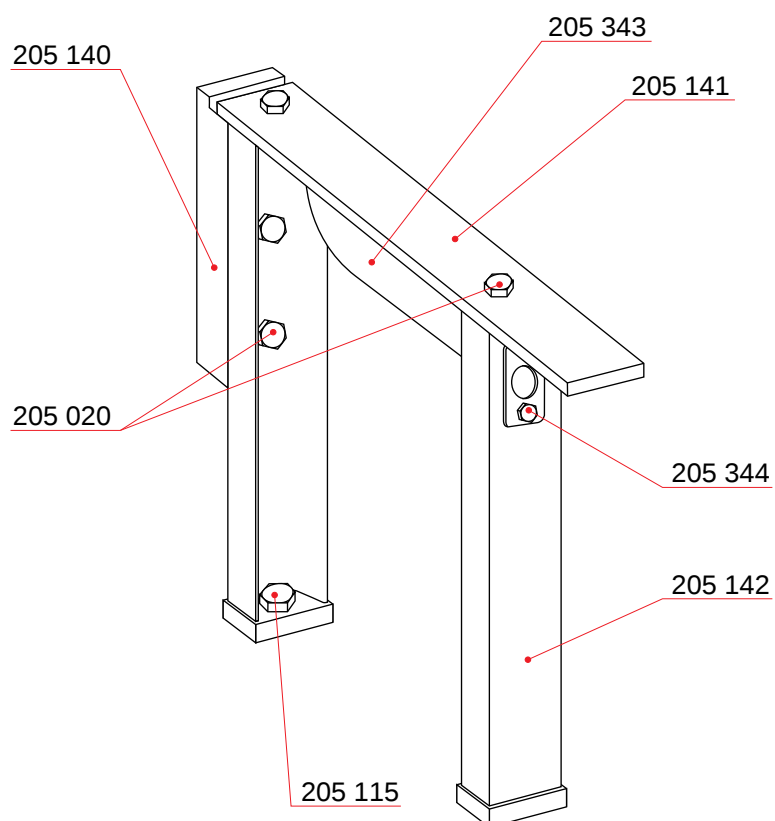


Part No.	Description	Qty [Pcs]	Wt. [Kg]
200 025	Two-part ring	18	3.8
200 140	Plug	38	0.1
200 275	Screw	8	-
200 283	Nut	41	-
200 034	Self-locking nut	69	-
200 141	Sealing ring	38	-
200 262	Bellows	2	12.1
200 264	Gasket	38	-
200 277	Screw	16	-
200 278	Support	1	0.7
200 280	Support	1	278
200 281	Distance sleeve	41	0.1
200 282	Screw	41	0.2
200 285	Flange	2	6.5
200 291	Support	1	0.7
200 336	Self-locking nut	24	-
200 342	Screw	16	0.1

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

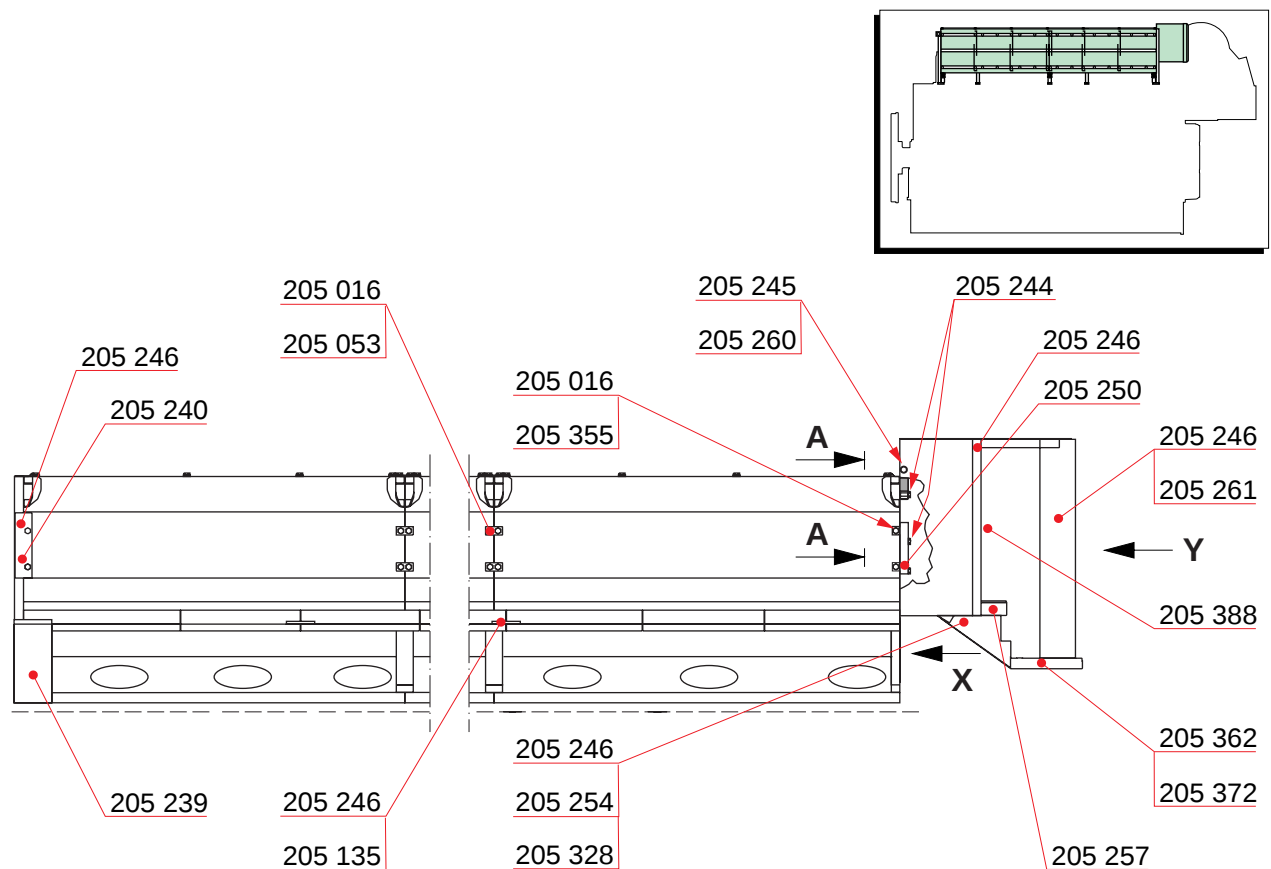
Bracket between cylinder heads



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
205 020	Screw	4	-				
205 115	Screw	2	-				
205 140	Shield	1	1.5				
205 141	Distance piece	1	3.8				
205 142	Bracket	2	4.6				
205 344	Screw		-				
205 343	Cable rail	1	-				

This page is intentionally left blank.

Insulating box

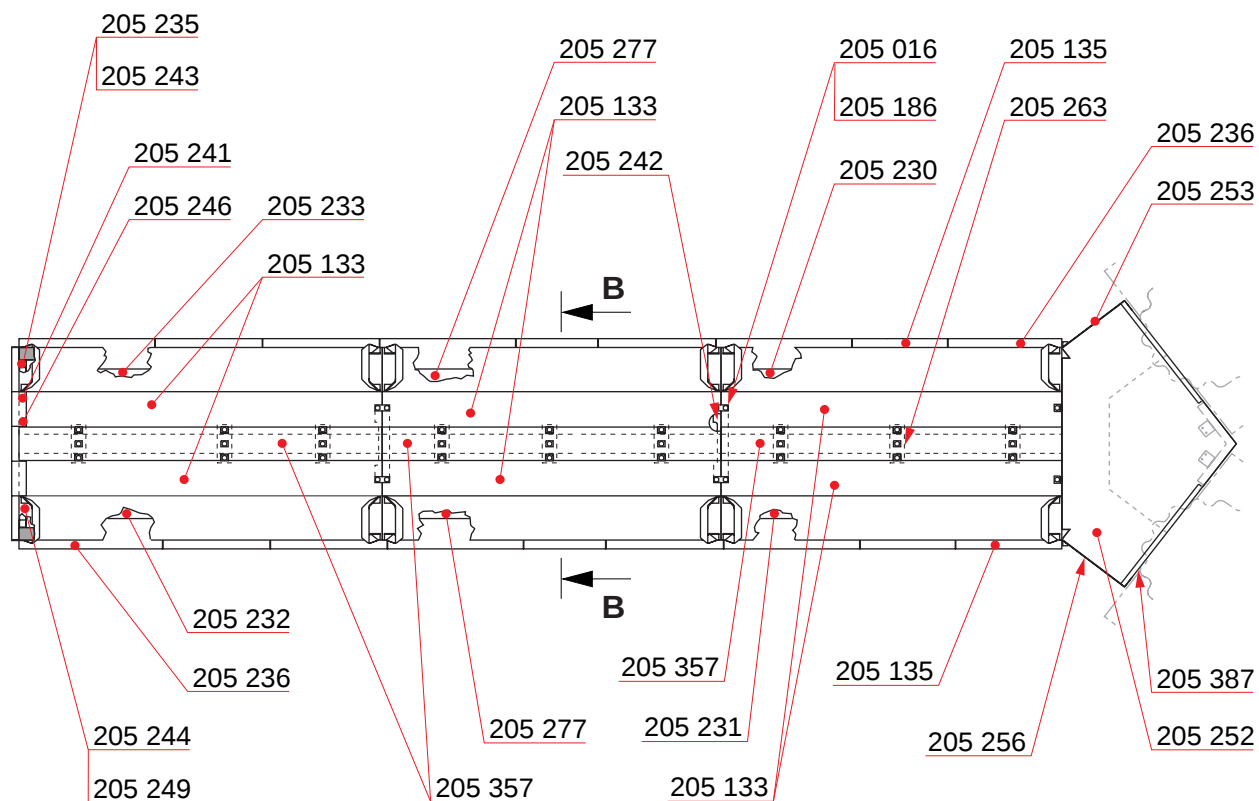


Part No.	Description	Qty [Pcs]	Wt. [Kg]
205 016	Screw	61	-
205 053	Washer	8	-
205 135	Shield	16	1.9
205 239	Insulation sheet	1	-
205 240	Fastening plate	2	-
205 244	Screw	6	-
205 245	Screw	6	-
205 246	Screw	217	-
205 250	Bracket	2	-
205 254	Insulation sheet	1	-
205 257	Cover	1	-
205 260	Washer	42	-
205 261	Insulation sheet	1	-
205 328	Insulation sheet	1	-
205 355	Washer	33	-
205 362	Screw	2	-
205 372	Bottom plate	1	-
205 388	Plate	2	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

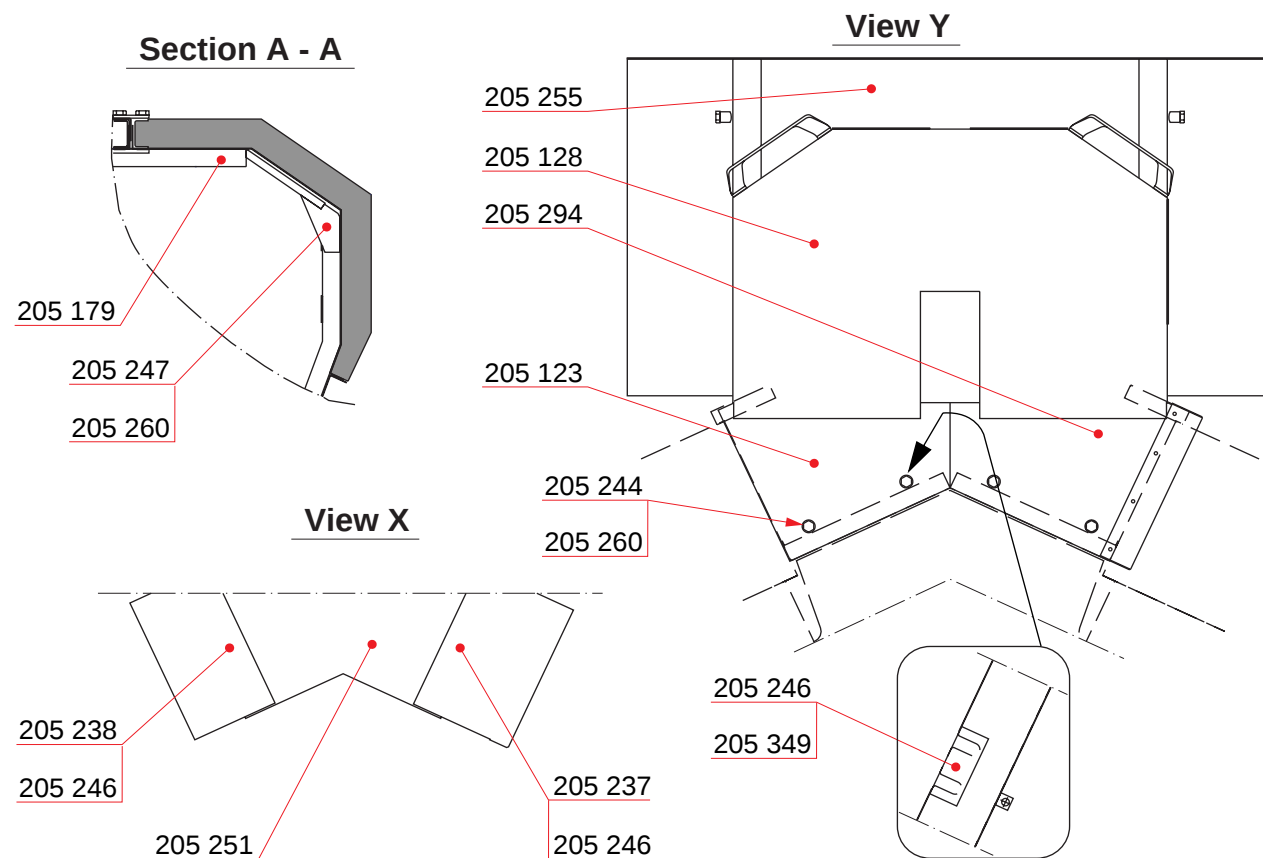
Edition: A
Page: 2(4)
Updated: 04.01.2005

Insulating box



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
205 016	Screw	61	-	205 387	Plate	2	-
205 133	Insulation sheet	6	-				
205 135	Shield	16	1.9				
205 186	Washer	4	-				
205 230	Bottom plate	1	-				
205 231	Bottom plate	1	-				
205 232	Bottom plate	1	-				
205 233	Bottom plate	1	-				
205 235	Frame	1	-				
205 236	Insulation sheet	2	-				
205 241	Fastening plate	2	-				
205 242	Fastening plate	2	-				
205 243	Screw	8	-				
205 244	Screw	6	-				
205 246	Screw	217	-				
205 249	Frame	1	-				
205 252	Insulation sheet	1	-				
205 253	Insulation sheet	1	-				
205 256	Insulation sheet	1	-				
205 263	Fastening plate	9	-				
205 277	Bottom plate	2	-				
205 357	Insulation sheet	3	-				

Insulating box



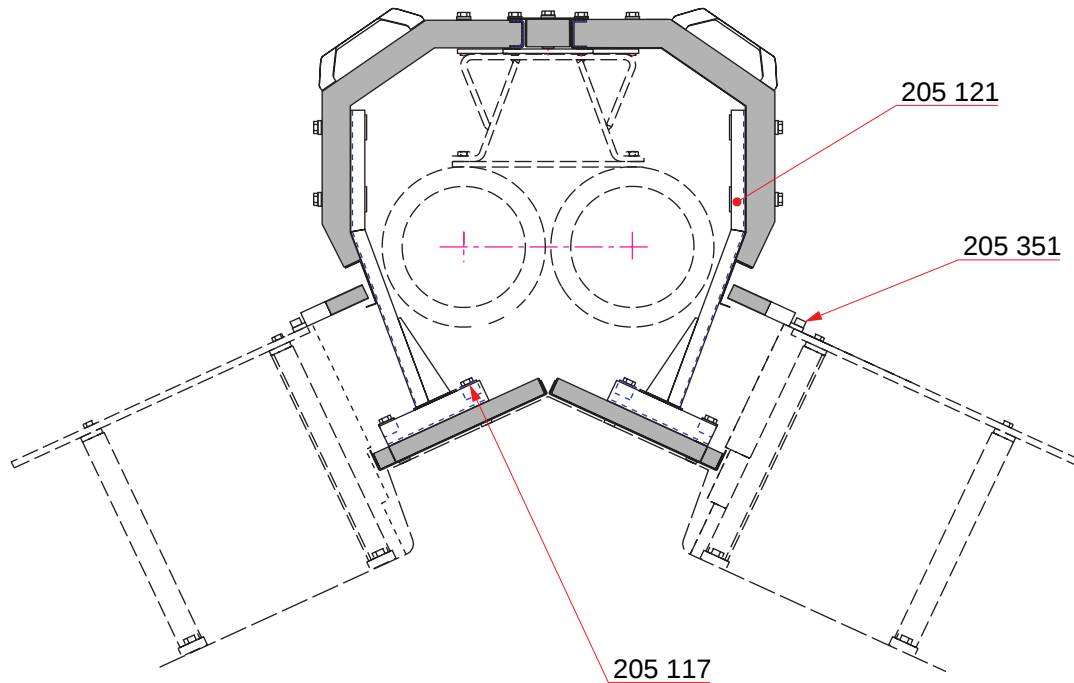
Part No.	Description	Qty [Pcs]	Wt. [Kg]
205 123	Insulation sheet	1	-
205 128	Shield, B bank	1	-
205 179	Bracket	1	-
205 237	Insulation sheet	1	-
205 238	Insulation sheet	1	-
205 244	Screw	6	-
205 246	Screw	217	-
205 247	Screw	4	-
205 251	End plate	1	-
205 255	End plate	1	-
205 260	Washer	42	-
205 294	End plate	1	-
205 349	Plate	18	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Edition: A
Page: 4(4)
Updated: 04.01.2005

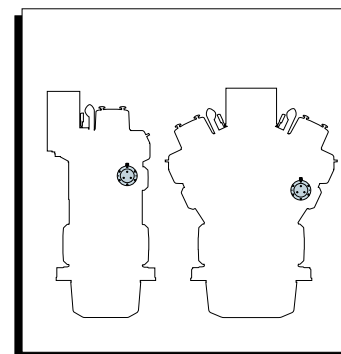
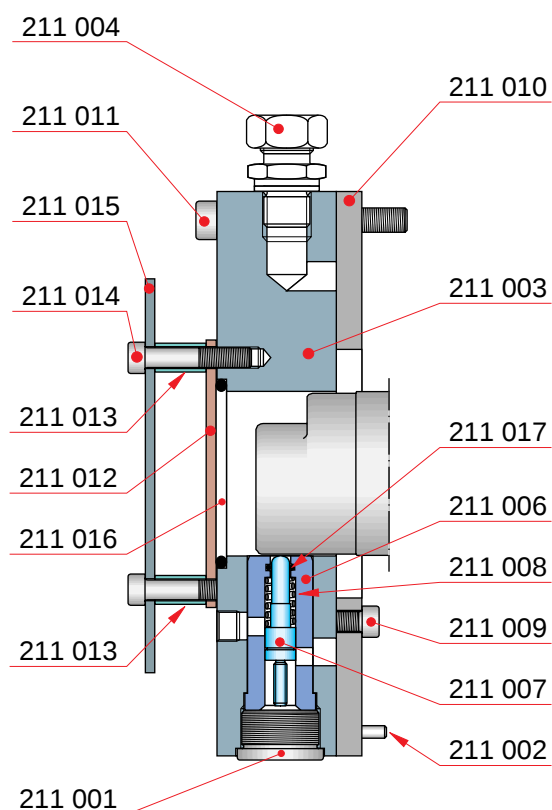
Insulating box

Section B - B



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
205 117	Screw	16	-				
205 121	Frame	4	-				
205 351	Screw	36	-				

Starting air distributor

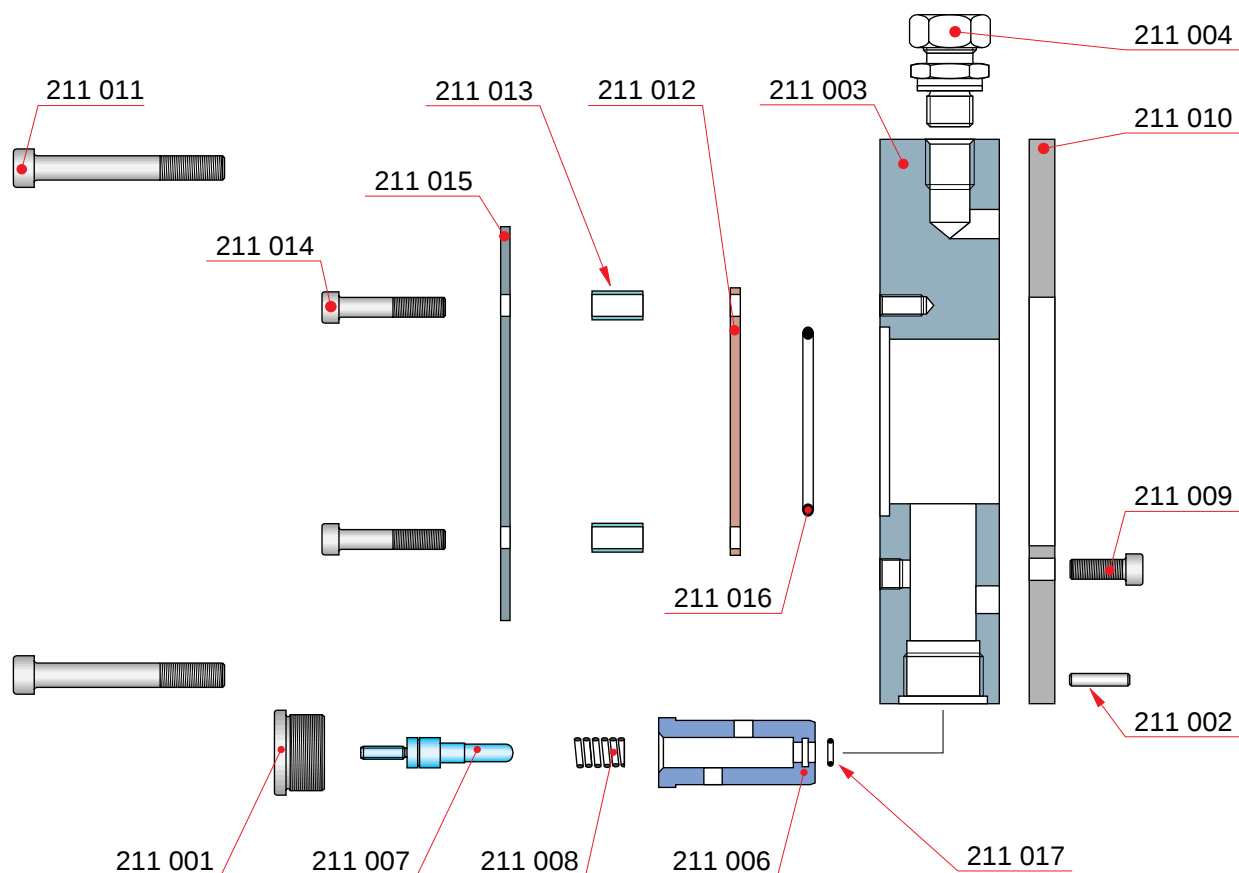


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
211 001	Plug	*	-				
211 002	Pin	2	-				
211 003	Housing	1	9.2				
211 004	Pipe union	1	-				
211 006	Bush	*	0.1				
211 007	Slide	*	-				
211 008	Spring	*	-				
211 009	Screw	2	-				
211 010	Plate	1	3.0				
211 011	Screw	6	-				
211 012	Cover	1	0.3				
211 013	Distance sleeve	3	-				
211 014	Screw	3	-				
211 015	Shield plate	1	0.3				
211 016	O-ring	1	-				
211 017	O-ring	*	-				

NOTE! * See page 3

Edition: B
 Page: 2(3)
 Updated: 21.01.2003

Starting air distributor



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
211 001	Plug	9	-	211 003	Housing	1	9.2
211 002	Pin	-	-	211 004	Pipe union	-	-
211 006	Bush	9	0.1	211 006	Bush	9	0.1
211 007	Slide	9	-	211 007	Slide	9	-
211 008	Spring	9	-	211 008	Spring	9	-
211 009	Screw	2	-	211 009	Screw	2	-
211 010	Plate	1	3.0	211 010	Plate	1	3.0
211 011	Screw	6	-	211 011	Screw	6	-
211 012	Cover	1	0.3	211 012	Cover	1	0.3
211 013	Distance sleeve	3	-	211 013	Distance sleeve	3	-
211 014	Screw	3	-	211 014	Screw	3	-
211 015	Shield plate	1	0.3	211 015	Shield plate	1	0.3
211 016	O-ring	1	-	211 016	O-ring	1	-
211 017	O-ring	9	-	211 017	O-ring	9	-

Starting air distributor

Quantity according to number of cylinders

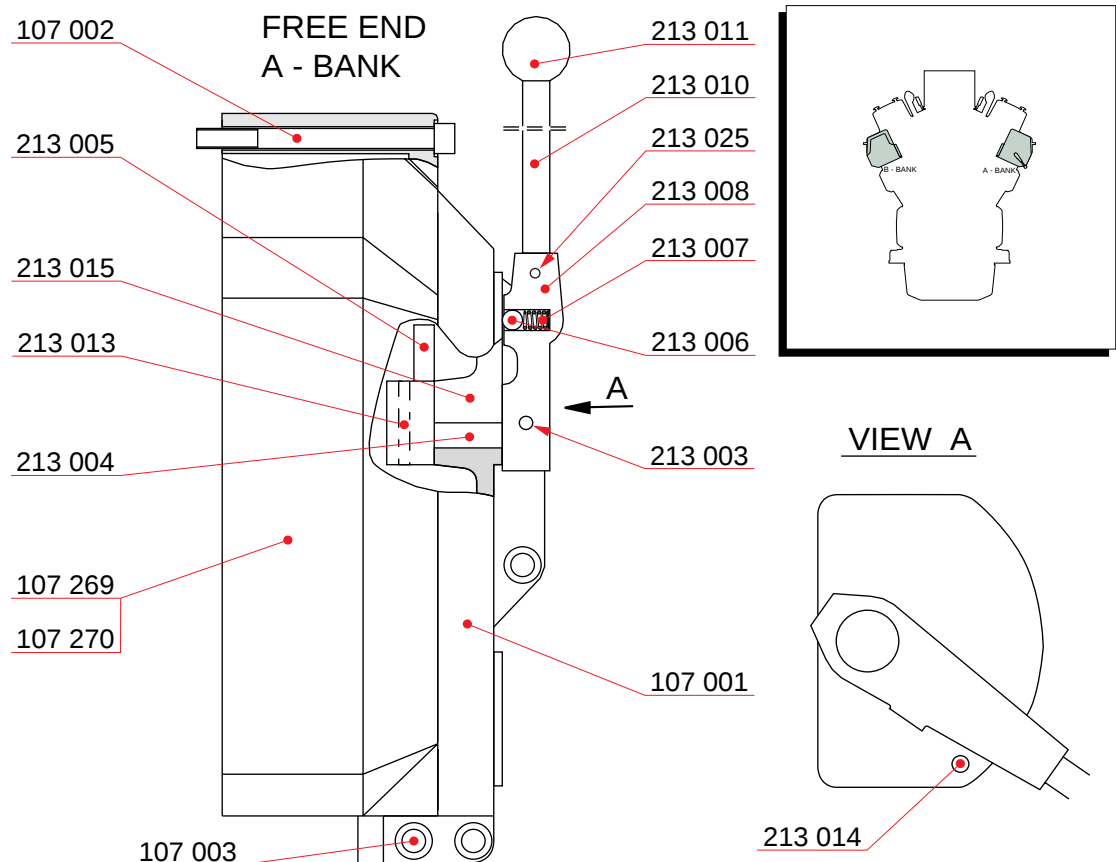
Part No	Pieces						
	4R32	6R32	8R32	9R32	12V32	16V32	18V32
211 001	4	6	8	9	6	8	9
211 006	4	6	8	9	6	8	9
211 007	4	6	8	9	6	8	9
211 008	4	6	8	9	6	8	9
211 017	4	6	8	9	6	8	9

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Stop lever and covers

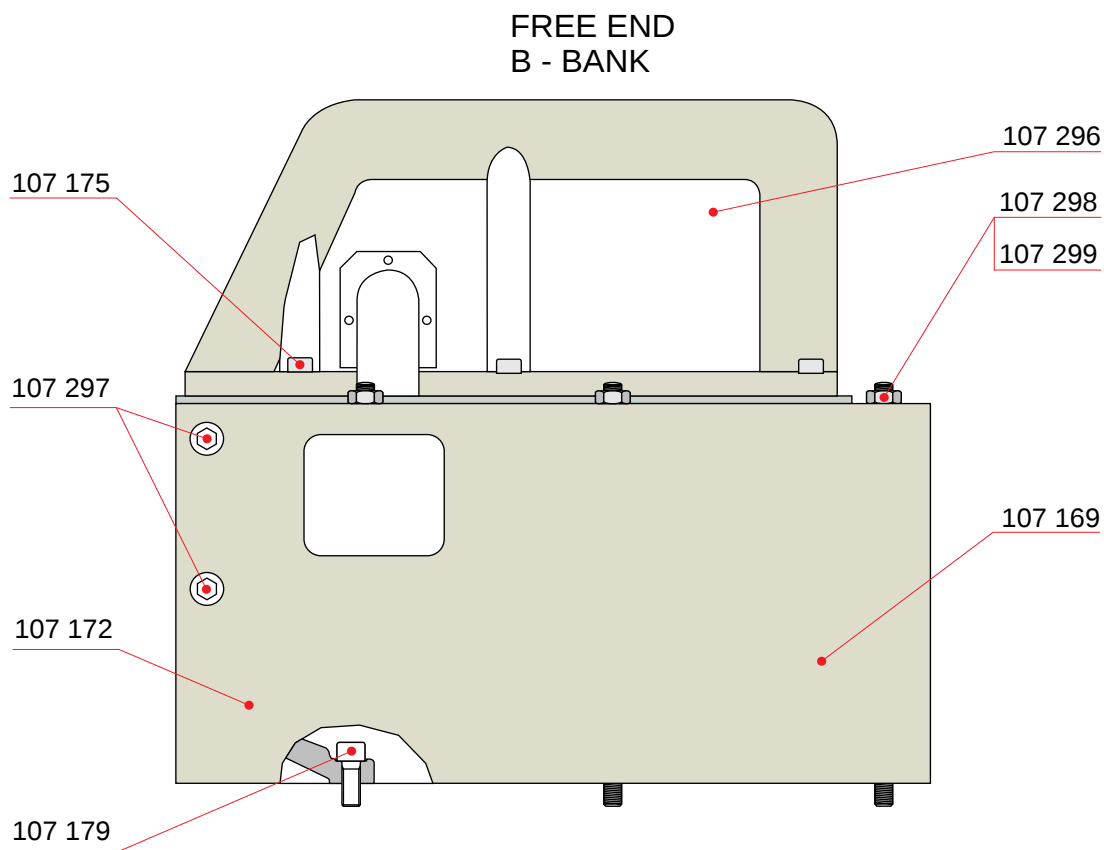


Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 001	End casing in free end	1	20.0
107 002	Screw	3	0.1
107 003	Screw	6	-
107 269	Cover	2	0.4
107 270	Screw	8	-
213 003	Pin	1	-
213 004	Shaft	1	0.5
213 005	Stop lever	1	0.8
213 006	Bearing ball	1	-
213 007	Spring	1	-
213 008	Lever	1	-
213 010	Hand lever	1	1.5
213 011	Lever knob	1	-
213 025	Spring pin	1	-
213 013	Spring pin	1	-
213 014	Screw	1	-
213 015	Lubricating nipple	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

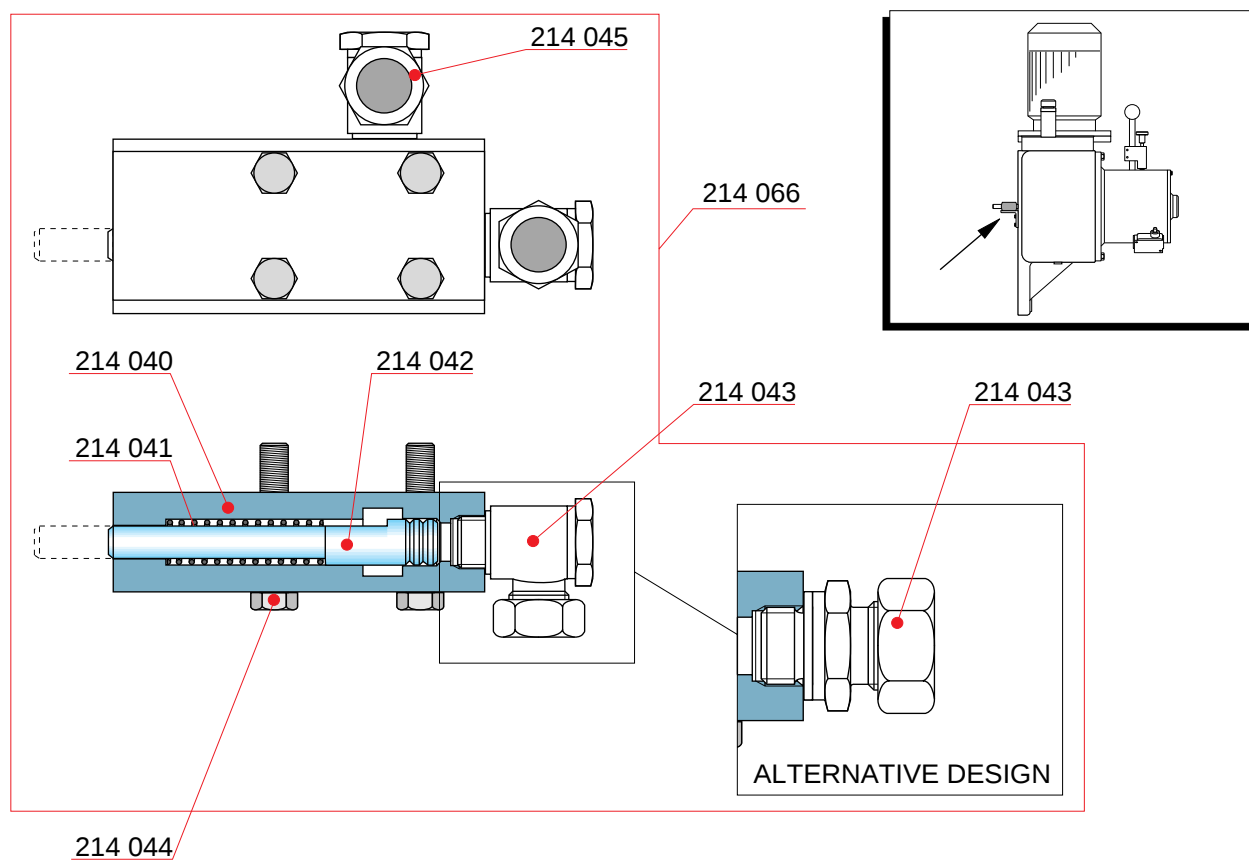
Edition: B
 Page: 2(2)
 Updated: 22.04.2003

Stop lever and covers



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 169	End casing in free end, B bank	1	-				
107 172	Screw	2	0.1				
107 175	Screw	8	-				
107 179	Screw	1	-				
107 296	Cover	1	-				
107 297	Screw	2	-				
107 298	Screw	3	0.2				
107 299	Nut	3	-				

Starting blocking device

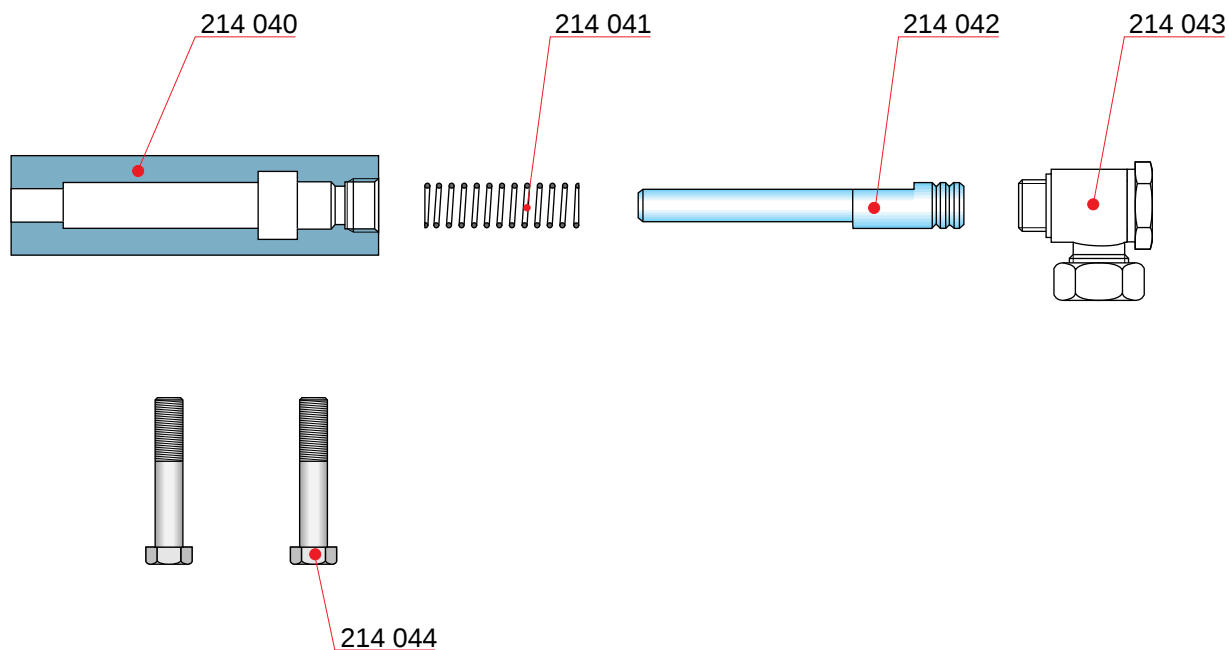


Part No.	Description	Qty [Pcs]	Wt. [Kg]
214 043	Pipe union	1	-
214 044	Screw	4	-
214 066	Start blocking device, complete	1	1.7
214 040	Housing	1	1.1
214 041	Spring	1	-
214 042	Valve	1	0.2
214 045	Pipe union	1	0.2

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Edition: A
Page: 2(2)
Updated: 26.10.1993

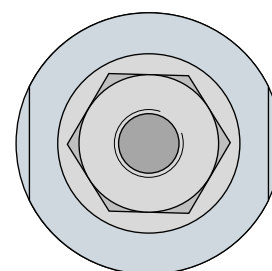
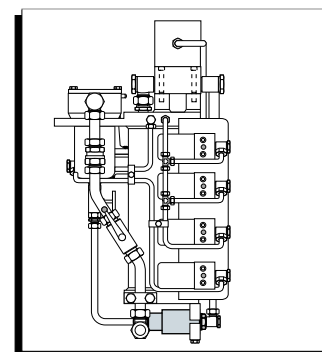
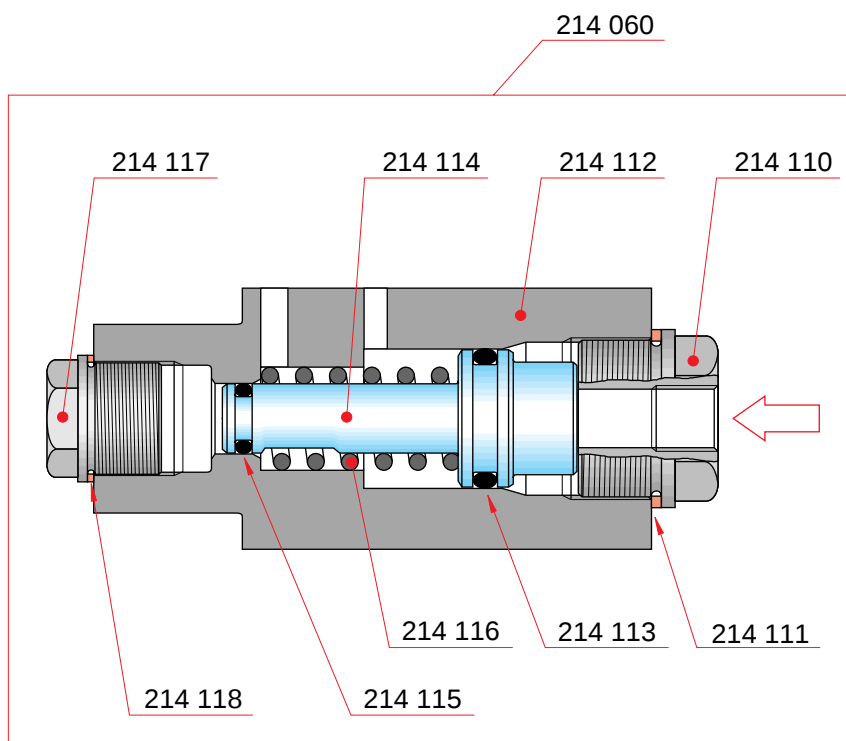
Starting blocking device



Part No.	Description	Qty [Pcs]	Wt. [Kg]
214 040	Housing	1	1.1
214 041	Spring	1	-
214 042	Valve	1	0.2
214 043	Pipe union	1	-
214 044	Screw	4	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

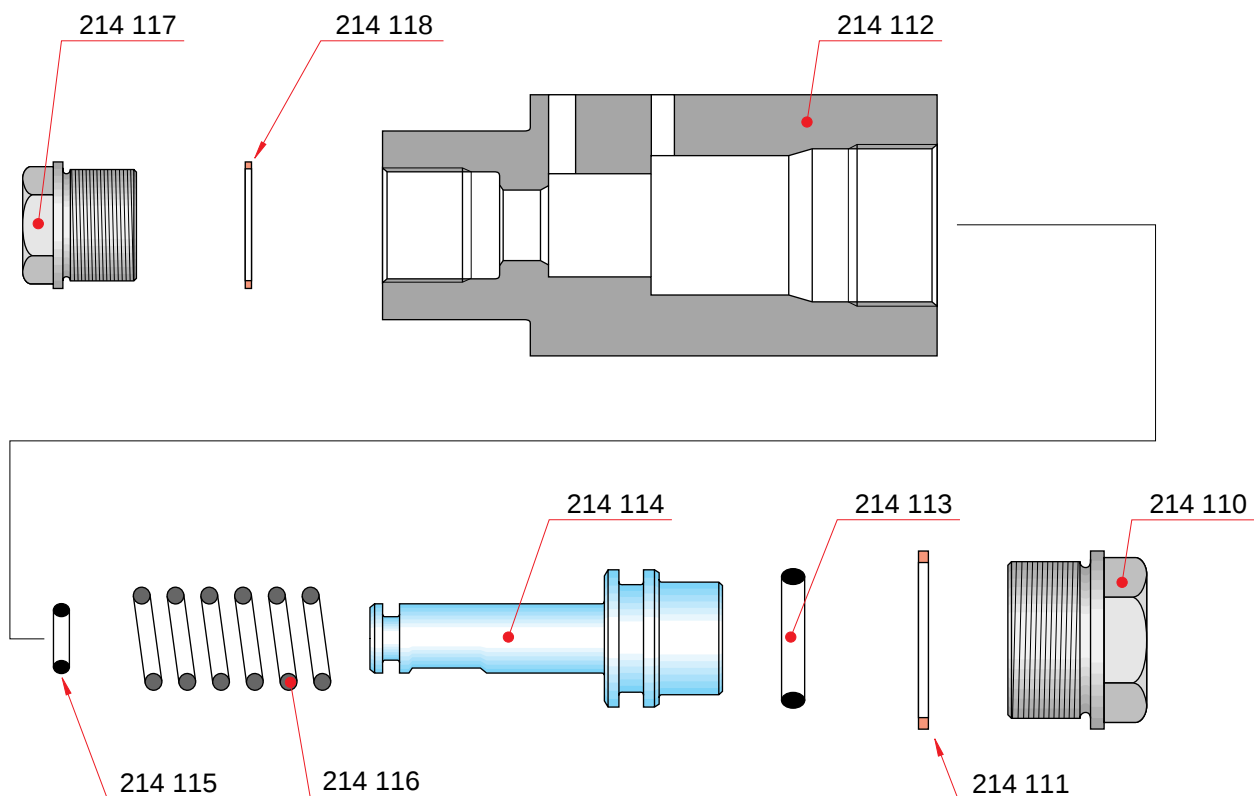
Water outlet valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
214 060	Valve, compl.	1	-				
214 110	Plug	1	0.1				
214 111	Gasket	1	-				
214 112	Housing	1	0.7				
214 113	O-ring	1	-				
214 114	Piston	1	-				
214 115	O-ring	1	-				
214 116	Spring	1	-				
214 117	Plug	1	-				
214 118	Gasket	1	-				

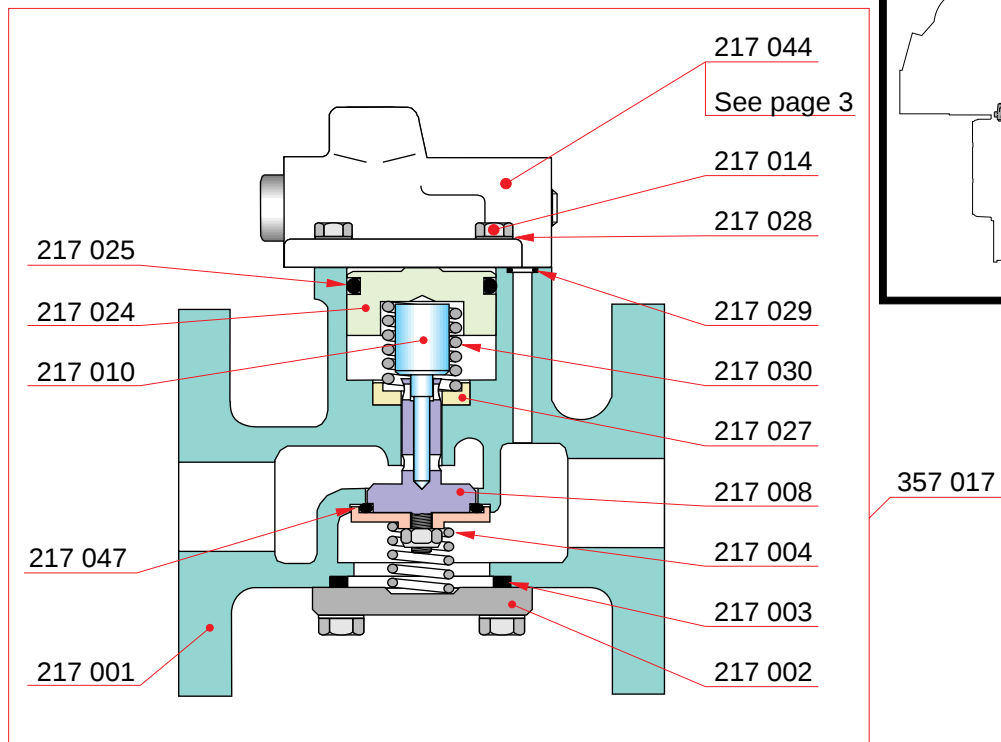
Edition: A
 Page: 2(2)
 Updated: 26.10.1993

Water outlet valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
214 110	Plug	1	0.1				
214 111	Gasket	1	-				
214 112	Housing	1	0.7				
214 113	O-ring	1	-				
214 114	Piston	1	-				
214 115	O-ring	1	-				
214 116	Spring	1	-				
214 117	Plug	1	-				
214 118	Gasket	1	-				

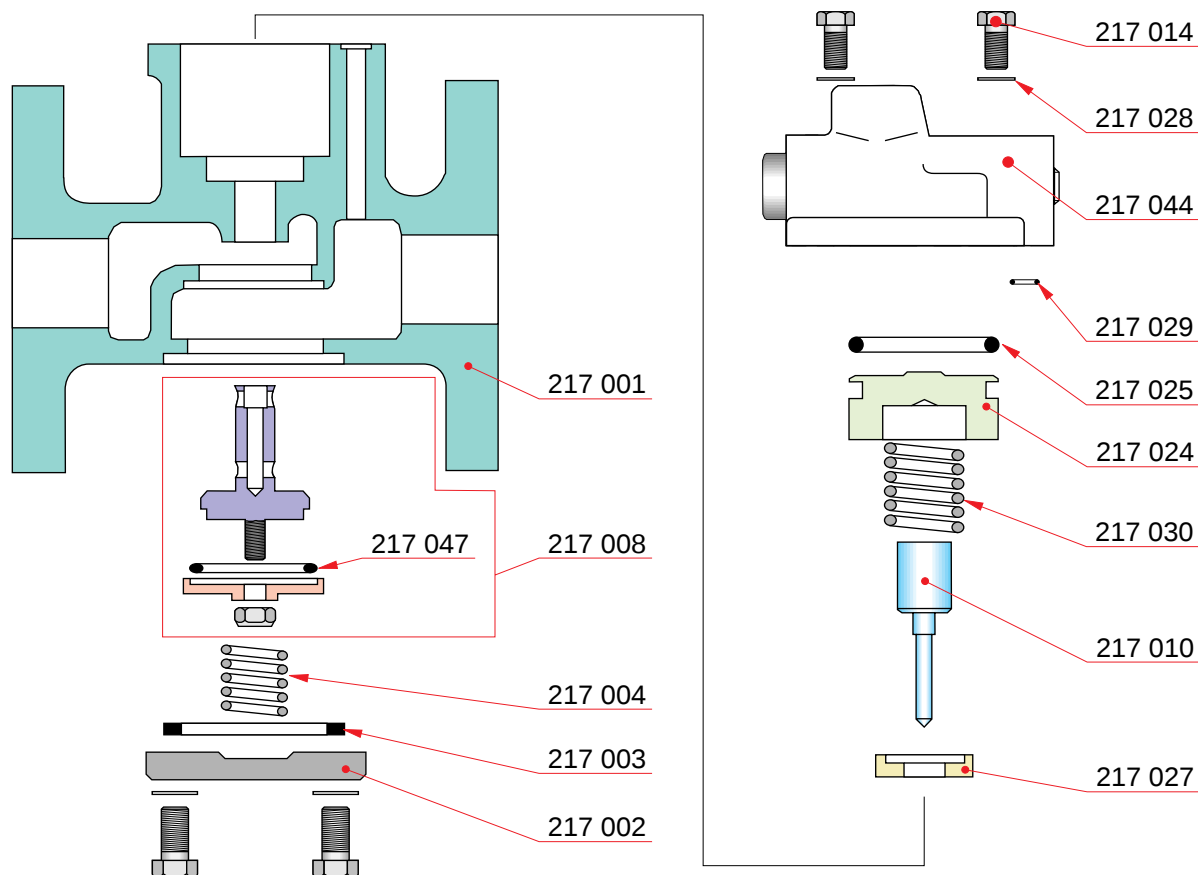
Main starting valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
357 017	Main starting valve	1	-				
217 001	Body	1	-				
217 002	Cover	1	-				
217 003	Gasket	1	-				
217 004	Valve spring	1	-				
217 008	Spool assembly	1	-				
217 047	O-ring	1	-				
217 010	Push rod	1	-				
217 014	Screw	4	-				
217 024	Piston	1	-				
217 025	O-ring	1	-				
217 027	Valve seat	1	-				
217 028	Spring washer	8	-				
217 029	O-ring	2	-				
217 030	Spring	1	-				
217 044	Bonnet assembly	1	-				

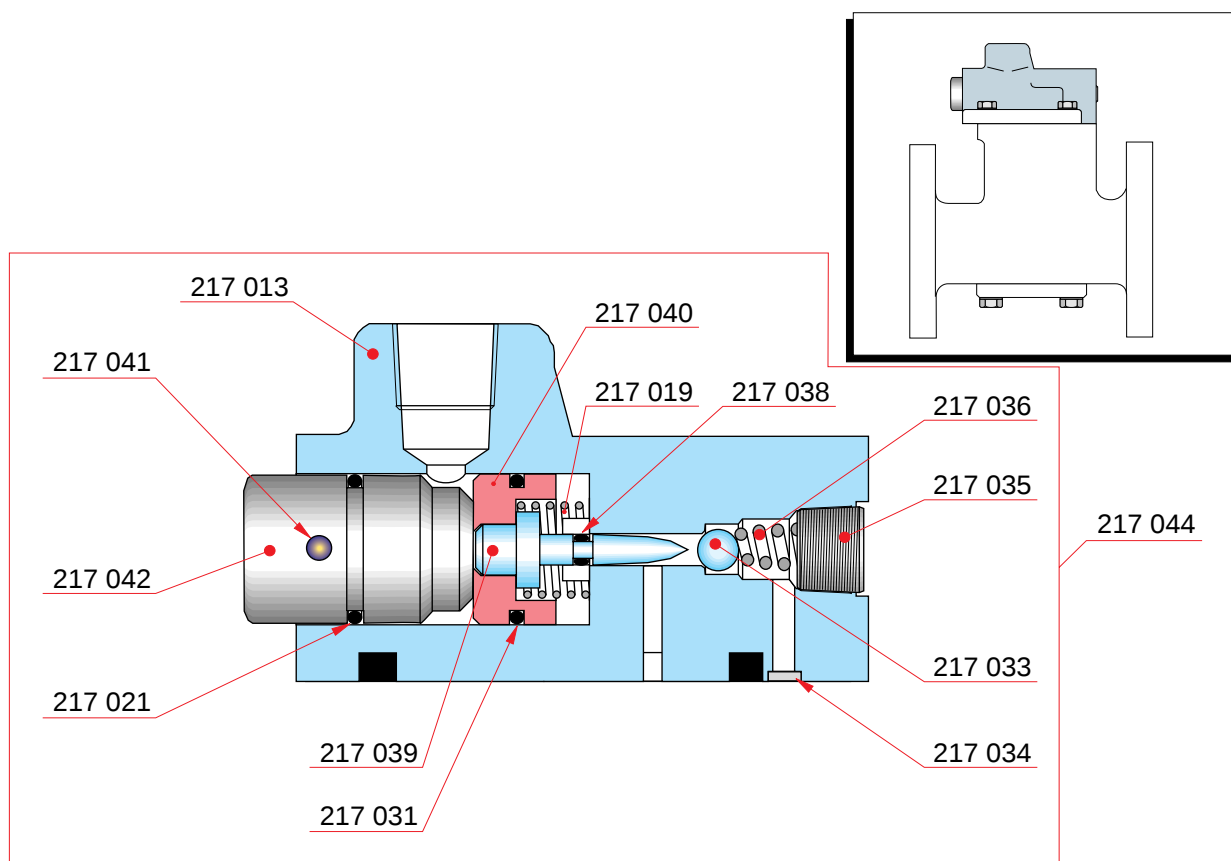
Edition: A
 Page: 2(6)
 Updated: 27.05.1998

Main starting valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
217 001	Body	-	-				
217 002	Cover	-	-				
217 003	Gasket	-	-				
217 004	Valve spring	-	-				
217 008	Spool assembly	-	-				
217 010	Push rod	-	-				
217 014	Screw	-	-				
217 024	Piston	-	-				
217 025	O-ring	-	-				
217 027	Valve seat	-	-				
217 028	Spring washer	-	-				
217 029	O-ring	-	-				
217 030	Spring	-	-				
217 044	Bonnet assembly	-	-				
217 047	O-ring	-	-				

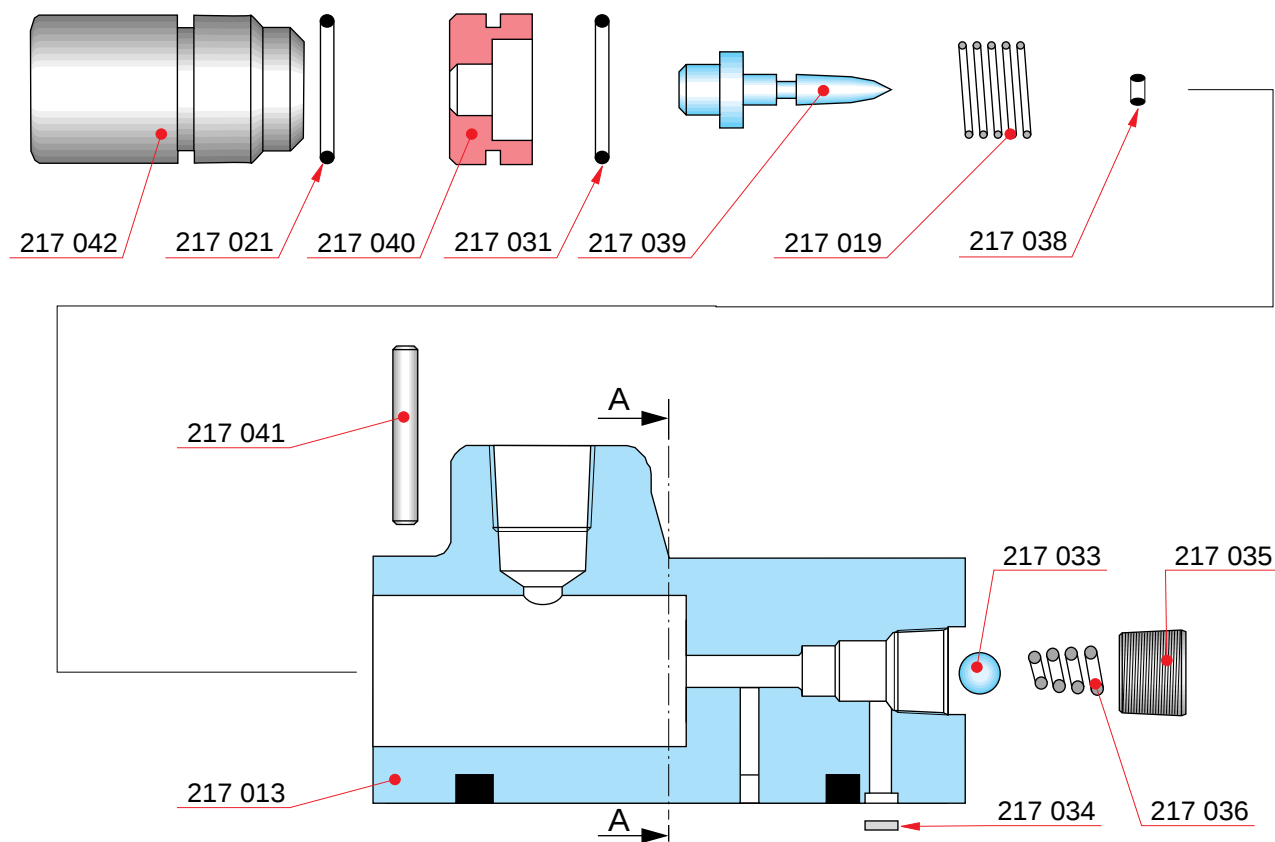
Main starting valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
217 044	Bonnet assembly	1	-				
217 013	Bonnet	1	-				
217 019	Spring	1	-				
217 021	O-ring	1	-				
217 031	O-ring	1	-				
217 033	Ball	1	-				
217 034	Filter	1	-				
217 035	Plug	1	-				
217 036	Spring	1	-				
217 038	O-ring	1	-				
217 039	Push rod	1	-				
217 040	Piston	1	-				
217 041	Pin	1	-				
217 042	Push button	1	-				

Edition: A
 Page: 4(6)
 Updated: 27.05.1998

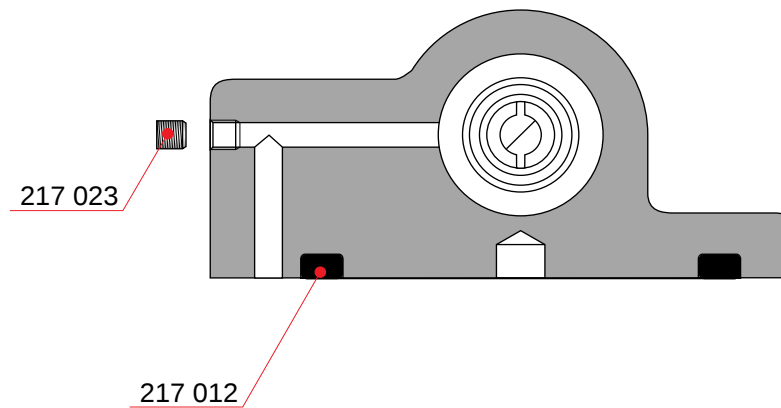
Main starting valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
217 013	Bonnet	-	-				
217 019	Spring	-	-				
217 021	O-ring	-	-				
217 031	O-ring	-	-				
217 033	Ball	-	-				
217 034	Filter	-	-				
217 035	Plug	-	-				
217 036	Spring	-	-				
217 038	O-ring	-	-				
217 039	Push rod	-	-				
217 040	Piston	-	-				
217 041	Pin	-	-				
217 042	Push button	-	-				

Main starting valve

SECTION A-A

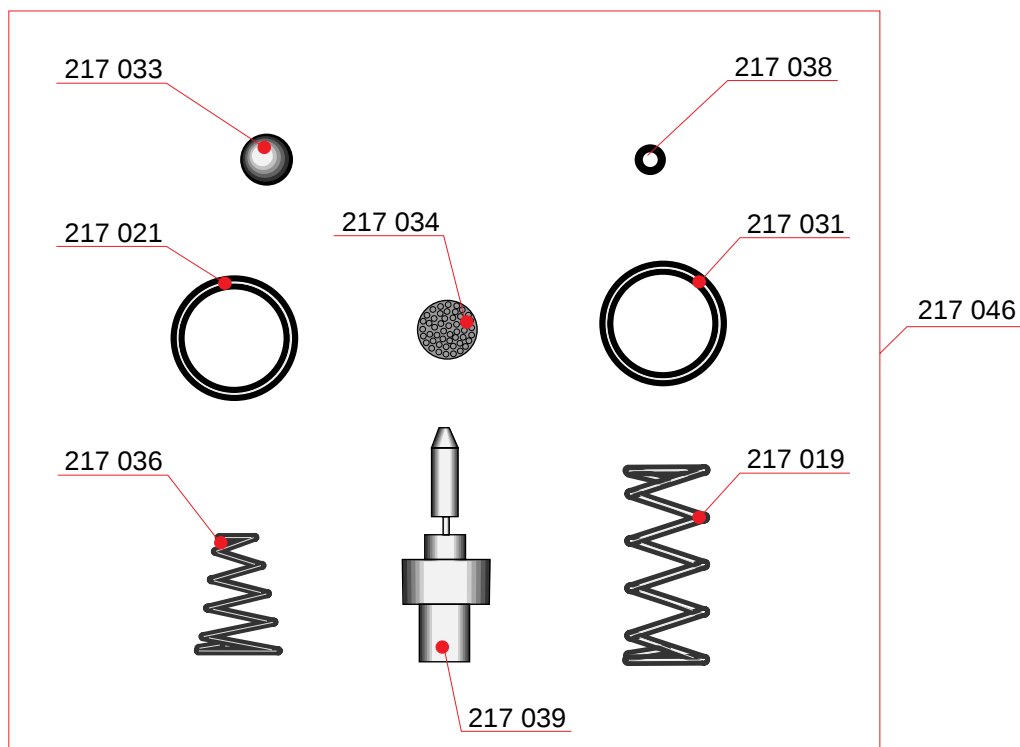


Part No.	Description	Qty [Pcs]	Wt. [Kg]
217 012	Seal	1	-
217 023	Set screw	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

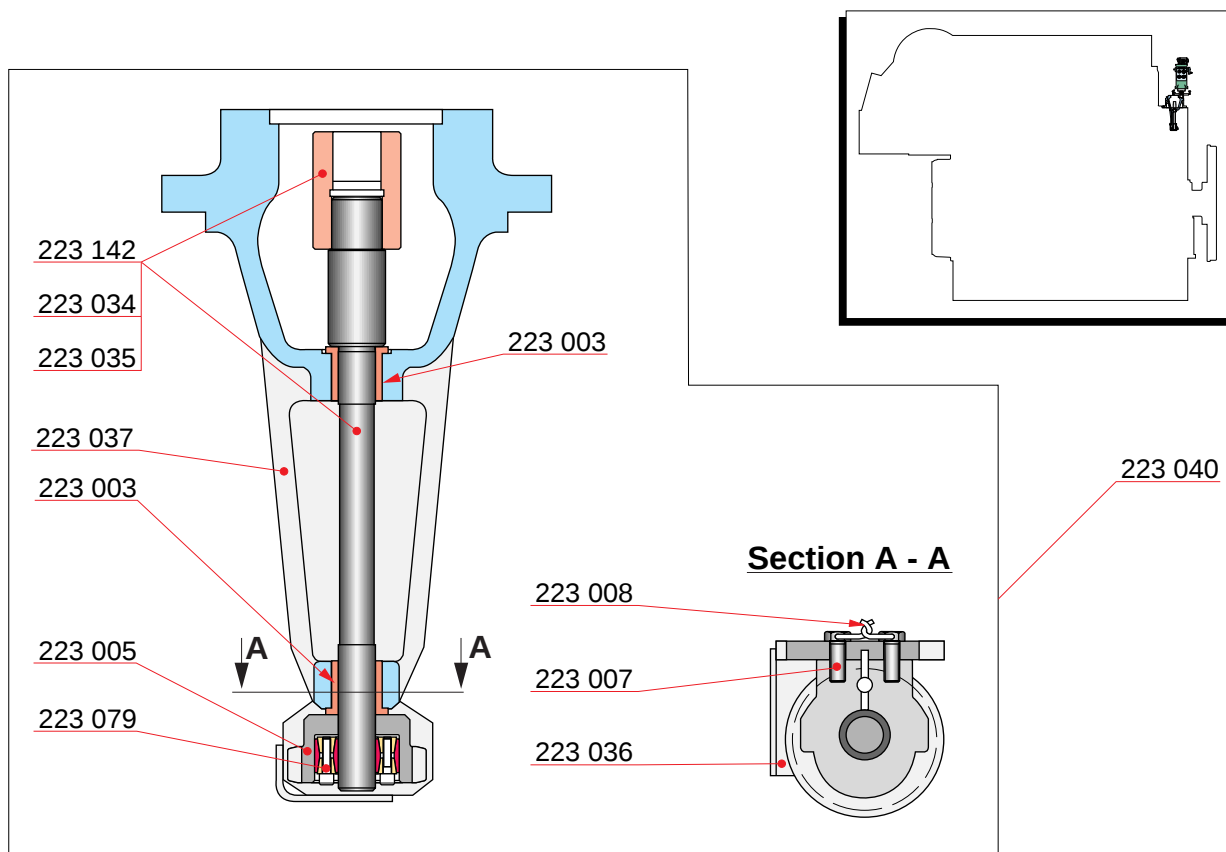
Edition: A
 Page: 6(6)
 Updated: 27.05.1998

Main starting valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
217 046	Spare parts and sealing set	1	-				
217 019	Spring	1	-				
217 021	O-ring	1	-				
217 031	O-ring	1	-				
217 033	Ball	1	-				
217 034	Filter	1	-				
217 036	Spring	1	-				
217 038	O-ring	1	-				
217 039	Push rod	1	-				

Governor drive V32 (clamp. ring conn.)

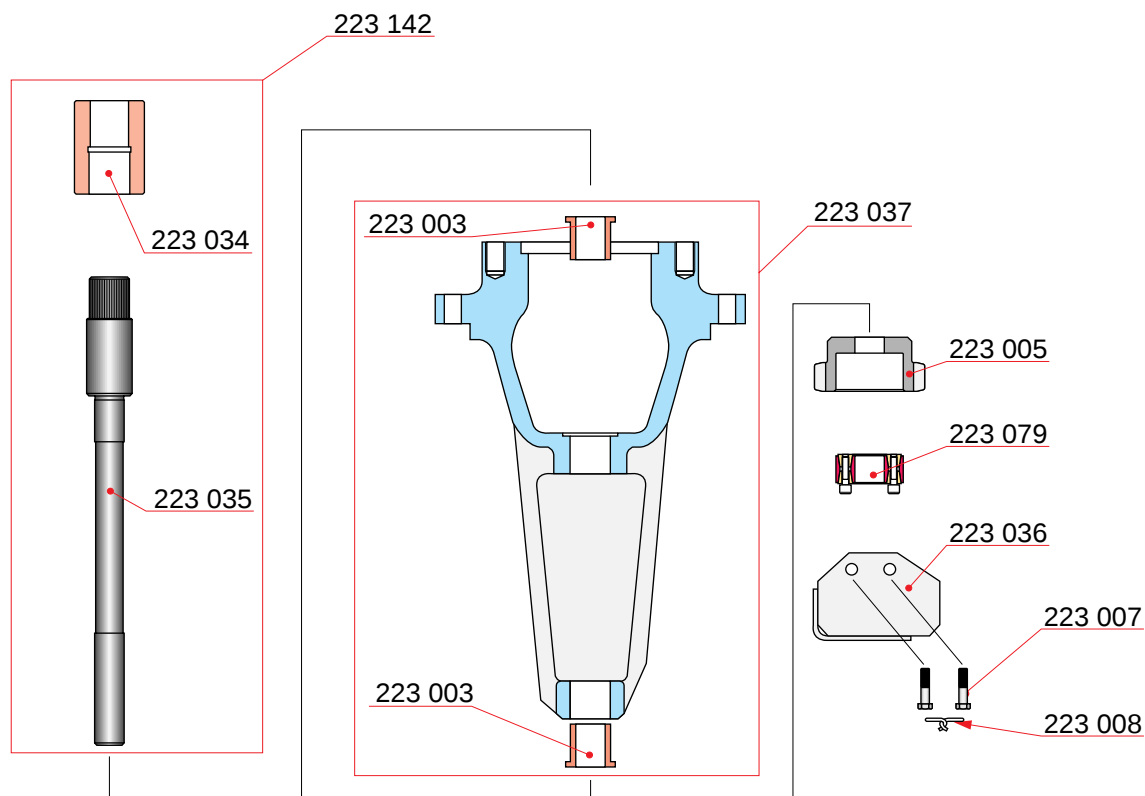


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
223 040	Governor drive, complete	1	-				
223 005	Helical gear	1	-				
223 007	Screw	2	-				
223 008	Locking wire	1	-				
223 036	Shelter	1	-				
223 037	Bearing housing	1	-				
223 003	Bearing bush	2	-				
223 079	Clamping ring	1	-				
223 142	Spare part set	1	-				
223 034	Connecting sleeve (1)	1	-				
223 035	Drive shaft (1)	1	-				

NOTE! (1) Part No marked (1) can not be ordered separately.

Edition: F
 Page: 2(2)
 Updated: 14.12.2004

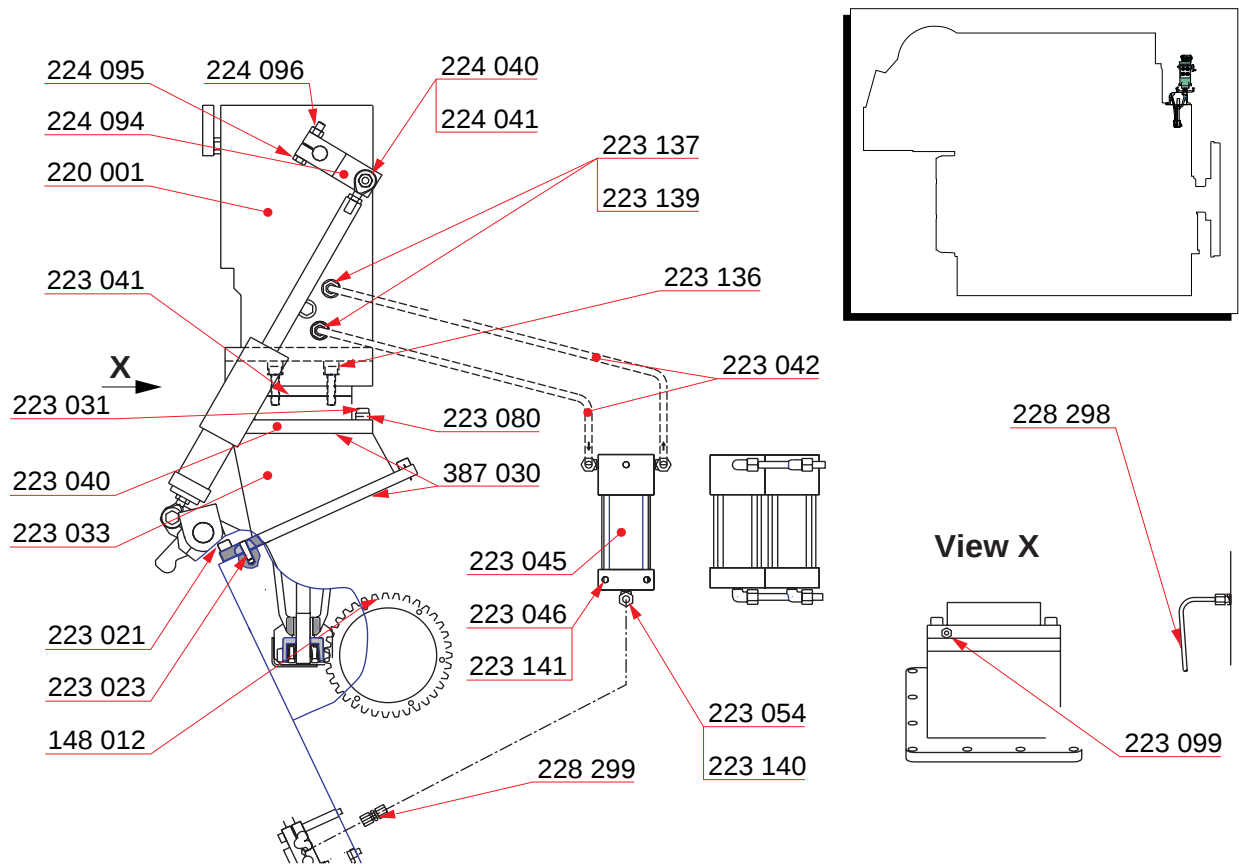
Governor drive V32 (clamp. ring conn.)



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
223 005	Helical gear	1	-				
223 007	Screw	2	-				
223 008	Locking wire	1	-				
223 036	Shelter	1	-				
223 037	Bearing housing	1	-				
223 003	Bearing bush	2	-				
223 079	Clamping ring	1	-				
223 142	Spare part set	1	-				
223 034	Connecting sleeve (1)	1	-				
223 035	Drive shaft (1)	1	-				

NOTE! (1) Part No marked (1) can not be ordered separately.

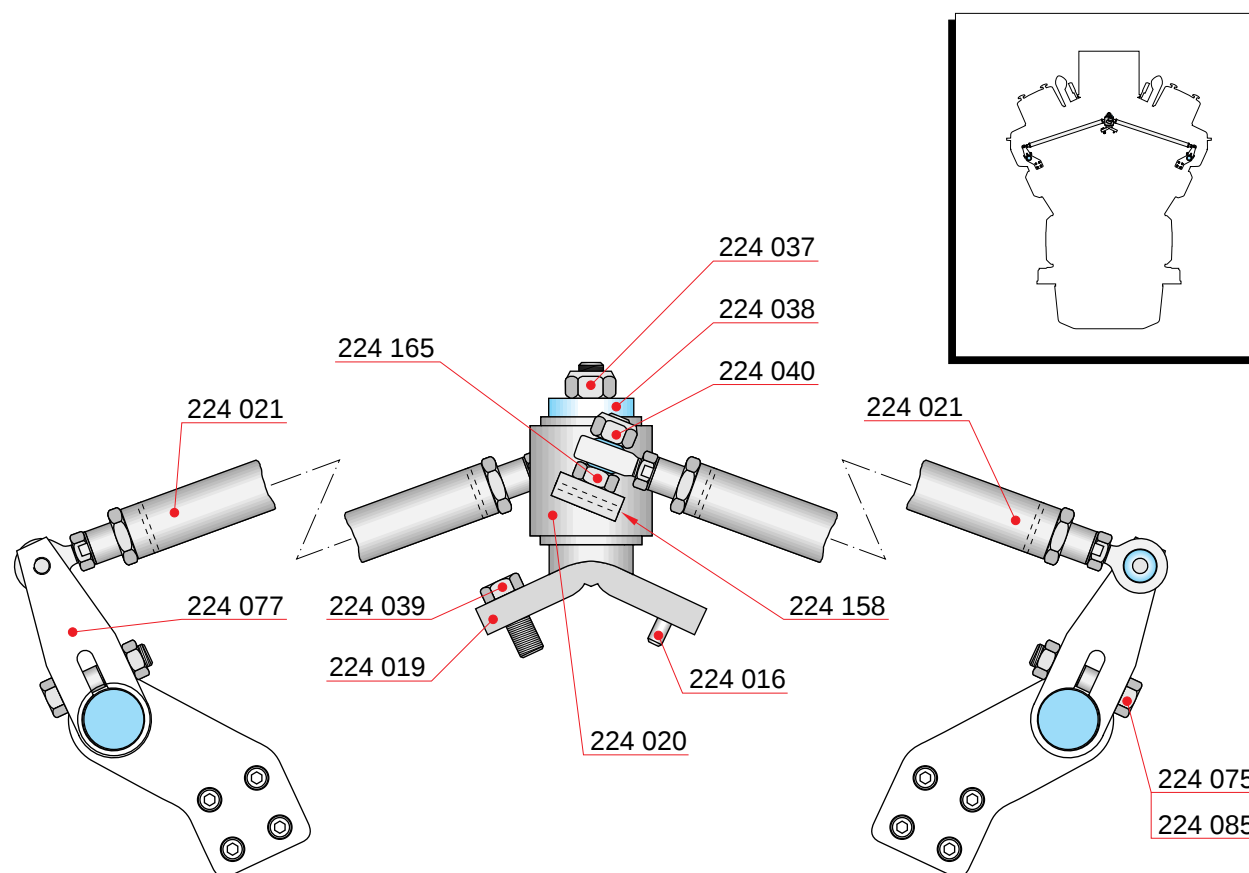
Governor drive



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
148 012	Driving gear wheel for governor	1	-	224 094	Lever	1	-
220 001	Governor drive, complete	1	-	224 095	Screw	1	-
223 021	Screw	12	-	224 096	Nut	1	-
223 023	Pin	4	-	228 298	Cable (3)		-
223 031	Screw	4	-	228 299	Pipe union	2	-
223 033	Bracket	1	-	387 030	Glue compound	1	-
223 040	Governor drive, complete	1	-	NOTE!	(1) L=1500mm		
223 041	Gasket	1	-	NOTE!	(2) L= 2000mm		
223 042	Pipe (1)		-	NOTE!	(3) L= 4000 mm		
223 045	Booster motor	1	-				
223 046	Screw	3	-				
223 054	Pipe (2)		-				
223 080	Bracket	1	-				
223 099	Pipe union	1	-				
223 136	Screw	4	-				
223 137	Pipe union	2	-				
223 139	Reduction union	2	-				
223 140	Reduction union	1	-				
223 141	Nut	3	-				
224 040	Nut	1	-				
224 041	Pin	1	-				

This page is intentionally left blank.

Link levers and bearing support



Part No.	Description	Qty [Pcs]	Wt. [Kg]
224 016	Pin	2	-
224 019	Bearing bracket with bearing	1	2.0
224 020	Connecting lever	1	3.7
224 021	Connecting lever	2	2.3
224 037	Nut	1	-
224 038	Washer	1	0.1
224 039	Screw	4	-
224 040	Nut	2	-
224 075	Screw	2	-
224 077	Lever	2	-
224 085	Nut	2	-
224 158	Spring pin	2	-
224 165	Pin	2	-

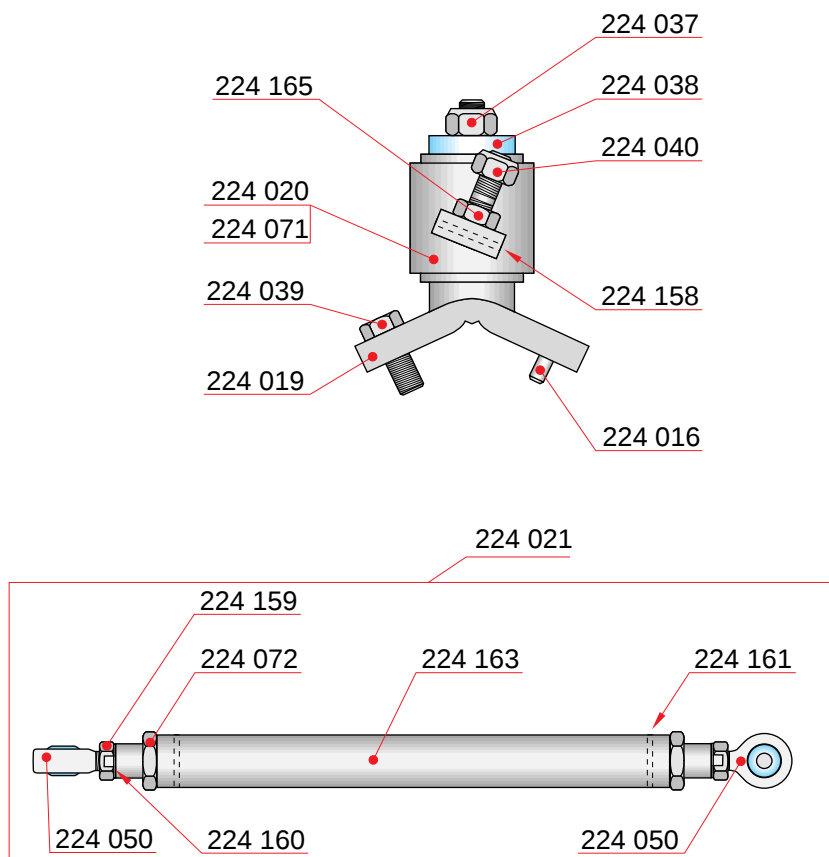
Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Edition: D

Page: 2(3)

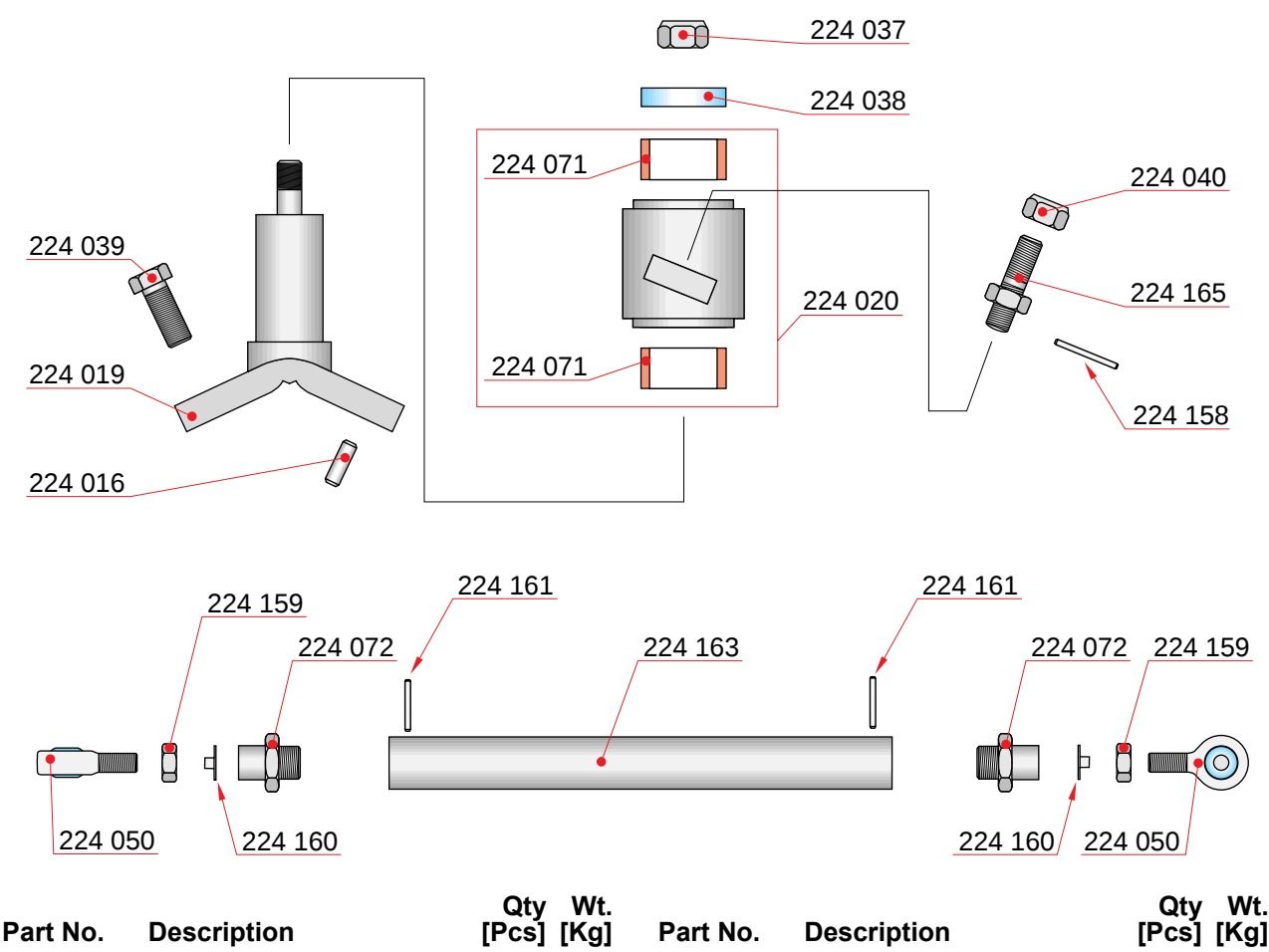
Updated: 30.09.1996

Link levers and bearing support



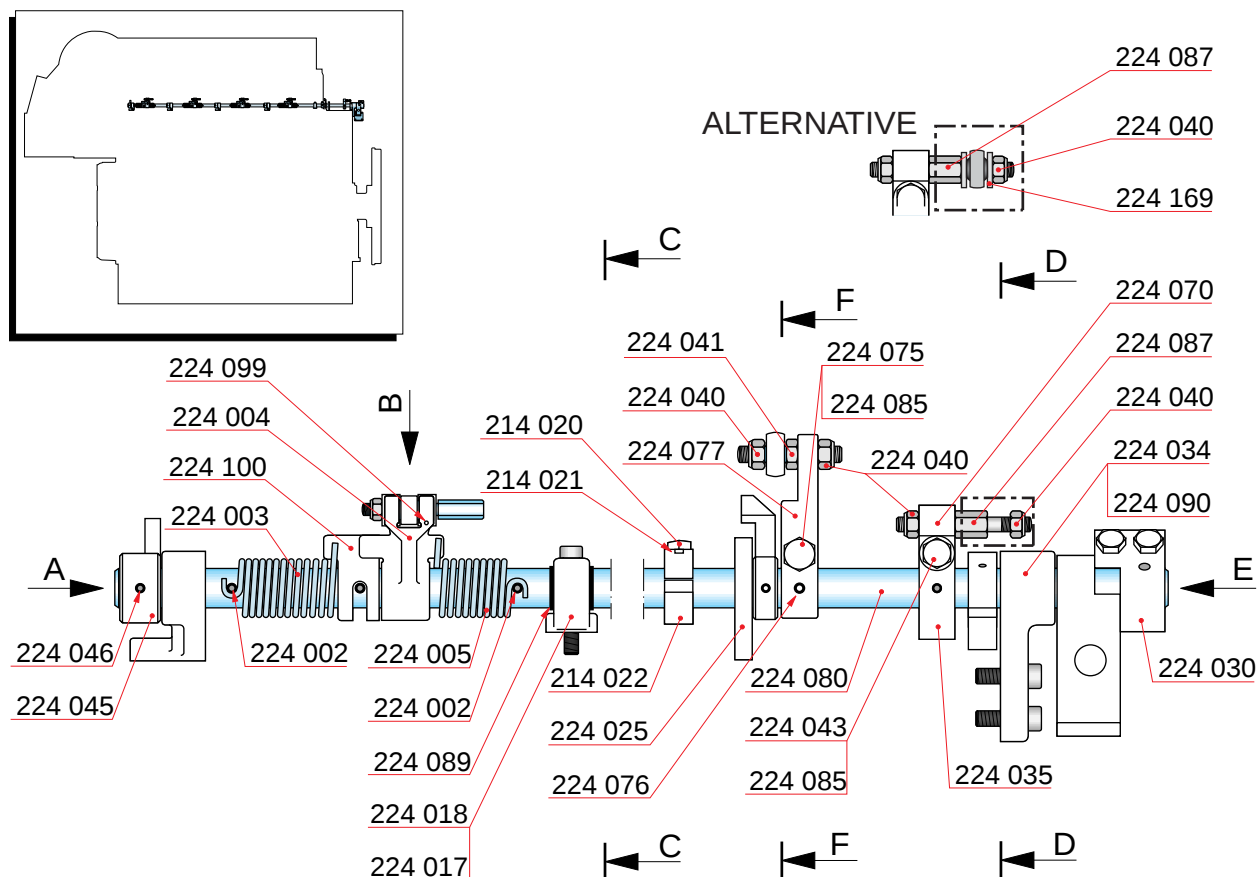
Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
224 016	Pin	2	-				
224 019	Bearing bracket with bearing	1	2.0				
224 020	Connecting lever	1	3.7				
224 071	Bearing bush	2	0.2				
224 021	Connecting lever	1	2.3				
224 050	Ball joint	2	-				
224 072	Plug	2	0.1				
224 159	Nut	2	-				
224 160	Washer	2	-				
224 161	Spring pin	2	-				
224 163	Rod	1	15.0				
224 037	Nut	1	-				
224 038	Washer	1	0.1				
224 039	Screw	4	-				
224 040	Nut	2	-				
224 158	Spring pin	2	-				
224 165	Pin	2	-				

Link levers and bearing support



This page is intentionally left blank.

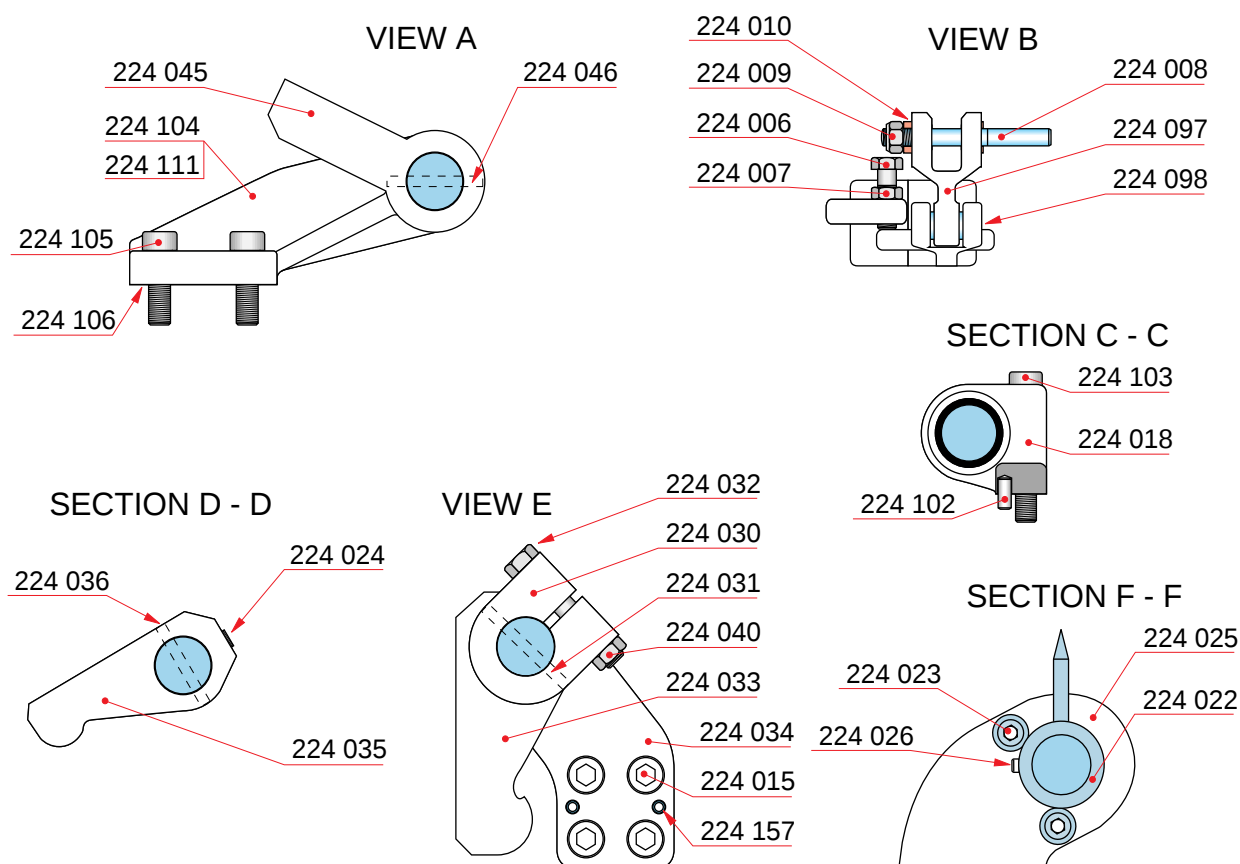
Regulating mechanism V32, A-bank



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
214 020	Screw	1	-	224 075	Screw	1	0.1
214 021	Tab washer	1	-	224 076	Pin	3	-
214 022	Lever	1	2.0	224 077	Lever	1	0.7
224 002	Spring pin	*	-	224 080	Control shaft, A bank	1	30.0
224 003	Spring	*	0.2	224 085	Nut	2	-
224 004	Lever	*	0.4	224 087	Pin for governor lever	1	0.1
224 005	Spring	*	0.1	224 089	Sealing ring	*	-
224 018	Bearing bracket with bearing	*	0.4	224 099	Spring pin	*	-
224 017	Bearing bush	1	-	224 100	Follower	*	0.2
224 025	Flange	1	0.6	224 169	Washer	2	-
224 030	Follower	1	0.7	NOTE!	* See page 3		
224 034	Bearing bracket with bearing	1	1.3				
224 090	Bearing bush	1	-				
224 035	Load limiter	1	0.4				
224 040	Nut	6	-				
224 041	Pin	1	-				
224 043	Screw	1	0.1				
224 045	Lever	1	0.5				
224 046	Spring pin	1	-				
224 070	Lever	1	0.9				

Edition: C
 Page: 2(3)
 Updated: 12.08.1998

Regulating mechanism V32, A-bank



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
224 006	Screw	*	-	224 040	Nut	6	-
224 007	Nut	*	-	224 045	Lever	1	0.5
224 008	Pin for fuel rack of injection pump	*	-	224 046	Spring pin	1	-
224 009	Nut	*	-	224 097	Lever	*	-
224 010	Sleeve for injection pump	*	-	224 098	Pin for lever arm	*	-
224 015	Screw	4	-	224 102	Cylindrical pin	*	-
224 018	Bearing bracket with bearing	*	0.4	224 103	Screw	*	-
224 022	Load indicator	1	0.1	224 104	Bearing housing	1	-
224 023	Screw	2	-	224 111	Bearing bush	1	-
224 024	Set screw	1	-	224 105	Screw	2	-
224 025	Flange	1	0.6	224 106	Pin	2	-
224 026	Screw set	1	-	224 157	Cylindrical pin	2	-
224 030	Follower	1	0.7	NOTE!	* See page 3		
224 031	Pin	1	-				
224 032	Screw	2	-				
224 033	Lever	1	2.0				
224 034	Bearing bracket with bearing	1	1.3				
224 035	Load limiter	1	0.4				
224 036	Spring pin	1	-				

Regulating mechanism V32, A-bank

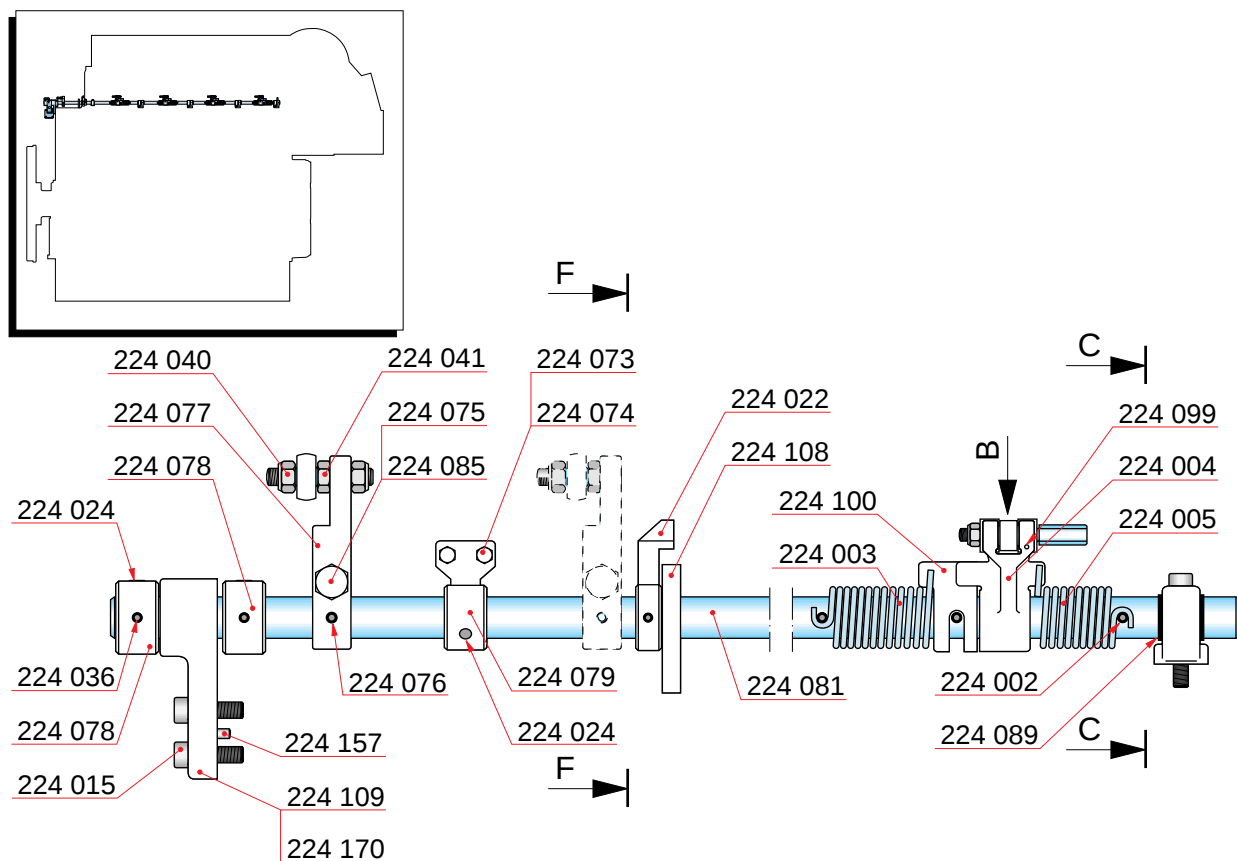
Quantity according to number of cylinders

Part No	Pieces		
	12V32	16V32	18V32
224 002	18	24	27
224 003	6	8	9
224 004	6	8	9
224 005	6	8	9
224 006	6	8	9
224 007	6	8	9
224 008	6	8	9
224 009	6	8	9
224 010	6	8	9
224 018	7	9	10
224 089	14	18	20
224 097	6	8	9
224 098	6	8	9
224 099	6	8	9
224 100	6	8	9
224 102	14	18	20
224 103	7	9	10

Part No.	Description	Qty	Wt.	Part No.	Description	Qty	Wt.
		[Pcs]	[Kg]			[Pcs]	[Kg]

This page is intentionally left blank.

Regulating mechanism V32, B-bank

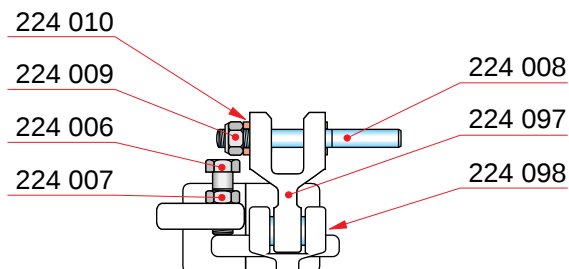


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
224 002	Spring pin	*	-	224 108	Flange	1	0.6
224 003	Spring	*	0.2	224 109	Bearing bracket with bearing	1	2.3
224 004	Lever	*	0.4	224 170	Bearing bush	1	-
224 005	Spring	*	0.1	224 157	Cylindrical pin	2	-
224 015	Screw	4	-	NOTE!	*) See page 3.		
224 022	Load indicator	1	0.1				
224 024	Set screw	1	-				
224 036	Spring pin	2	-				
224 040	Nut	2	-				
224 041	Pin	1	-				
224 073	Screw	2	-				
224 074	Nut	2	-				
224 075	Screw	1	0.1				
224 076	Pin	1	-				
224 077	Lever	1	0.7				
224 078	Axial limiter	2	0.3				
224 079	Lever	1	0.3				
224 081	Control shaft, B bank	1	-				
224 085	Nut	1	-				
224 089	Sealing ring	*	-				
224 099	Spring pin	*	-				
224 100	Follower	*	0.2				

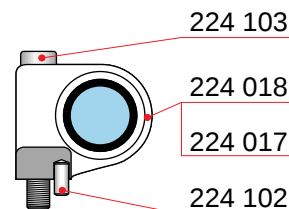
Edition: D
 Page: 2(3)
 Updated: 12.08.2005

Regulating mechanism V32, B-bank

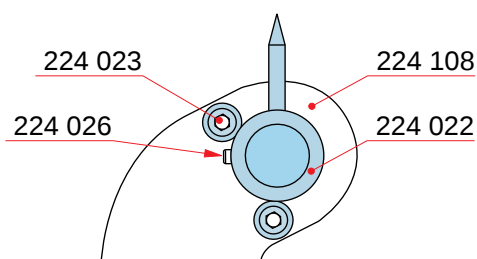
VIEW B



SECTION C - C



SECTION F - F



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
224 006	Screw	*	-				
224 007	Nut	*	-				
224 008	Pin	*	-				
224 009	Nut	*	-				
224 010	Sleeve	*	-				
224 018	Bearing bracket with bearing	*	0.4				
224 017	Bearing bush	1	-				
224 022	Load indicator	1	0.1				
224 023	Screw	2	-				
224 026	Screw set	1	-				
224 097	Lever	*	-				
224 098	Pin	*	-				
224 102	Cylindrical pin	*	-				
224 103	Screw	*	-				
224 108	Flange	1	0.6				

NOTE! *) See page 3.

Regulating mechanism V32, B-bank

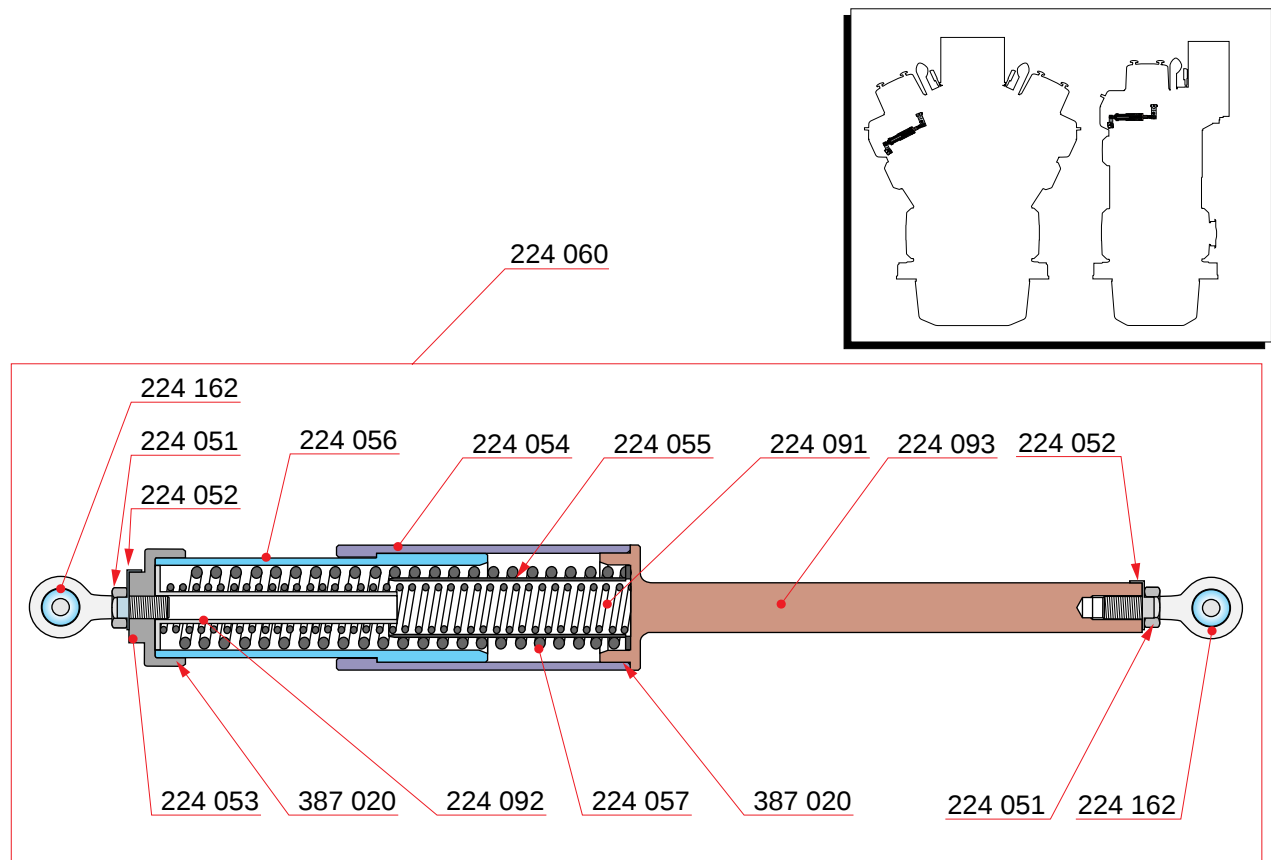
Quantity according to number of cylinders

Part No	Pieces		
	12V32	16V32	18V32
224 002	18	24	27
224 003	6	8	9
224 004	6	8	9
224 005	6	8	9
224 006	6	8	9
224 007	6	8	9
224 008	6	8	9
224 009	6	8	9
224 010	6	8	9
224 018	6	8	9
224 089	12	16	18
224 097	6	8	9
224 098	6	8	9
224 099	6	8	9
224 100	6	8	9
224 102	12	16	18
224 103	6	8	9

Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

This page is intentionally left blank.

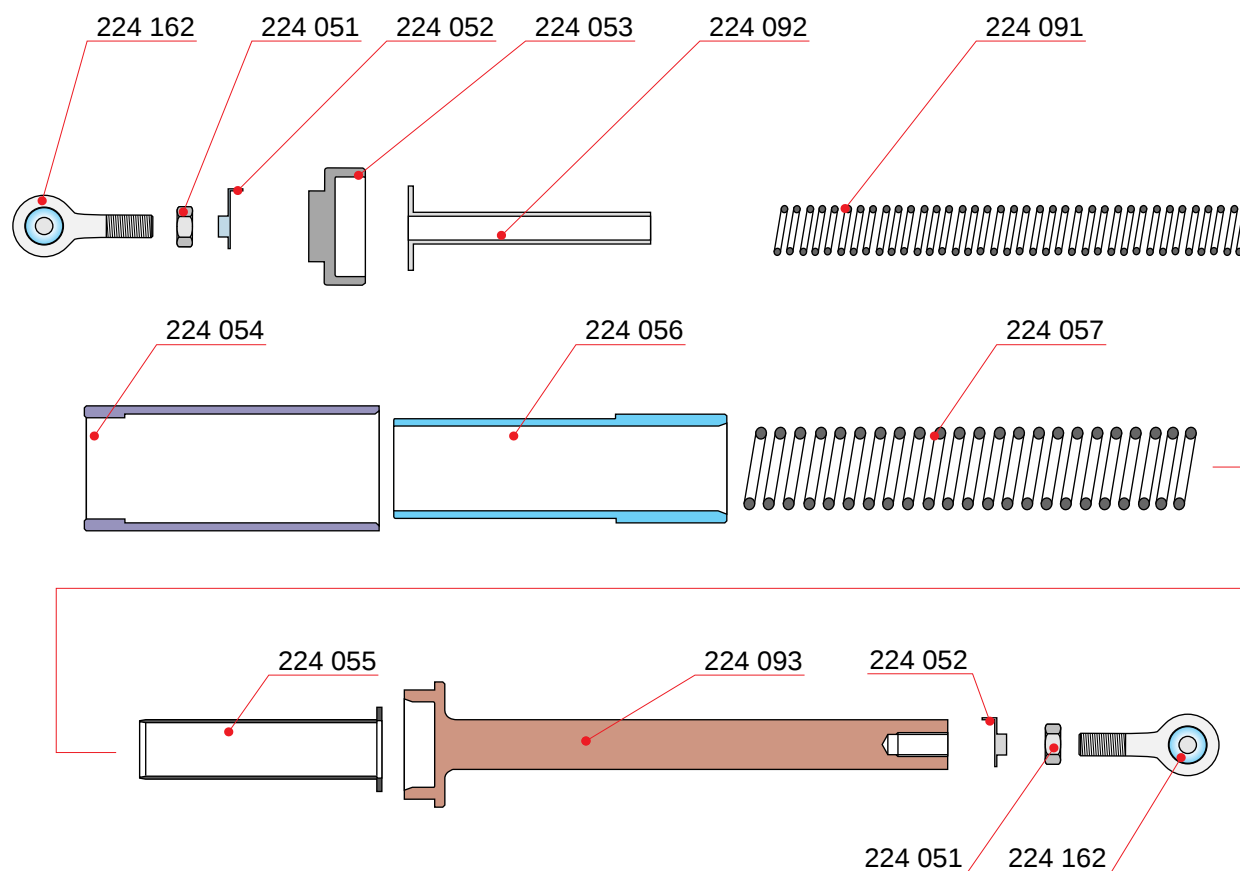
Spring loaded rod



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
224 060	Spring loaded rod, compl.	1	-				
224 051	Nut	2	-				
224 052	Tab washer	2	-				
224 053	End piece	1	-				
224 054	Spring housing	1	-				
224 055	Spring retainer	1	-				
224 056	Spring housing	1	-				
224 057	Spring	1	-				
224 091	Spring	1	-				
224 092	Spring retainer	1	-				
224 093	End piece	1	-				
224 162	Ball joint	2	-				
387 020	Glue compound	1	-				

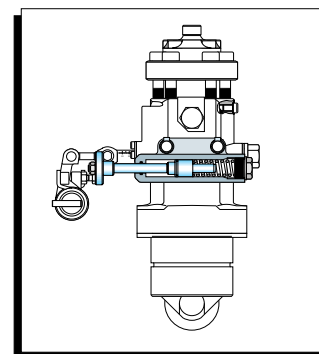
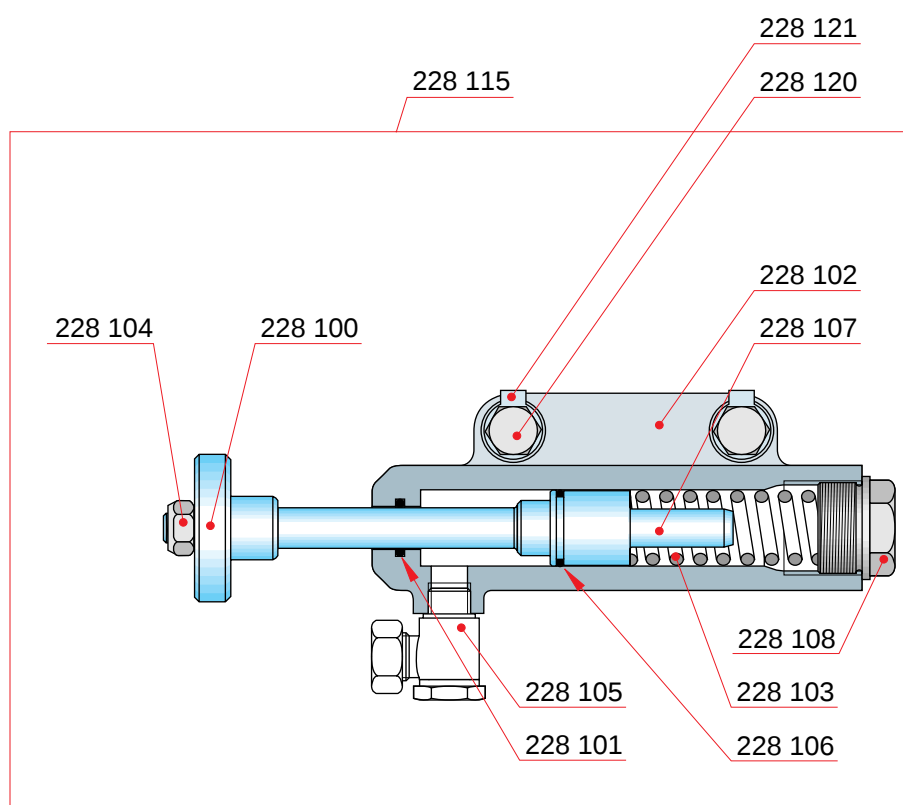
Edition: A
 Page: 2(2)
 Updated: 15.02.2002

Spring loaded rod



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
224 051	Nut	2	-				
224 052	Tab washer	2	-				
224 053	End piece	1	-				
224 054	Spring housing	1	-				
224 055	Spring retainer	1	-				
224 056	Spring housing	1	-				
224 057	Spring	1	-				
224 091	Spring	1	-				
224 092	Spring retainer	1	-				
224 093	End piece	1	-				
224 162	Ball joint	2	-				

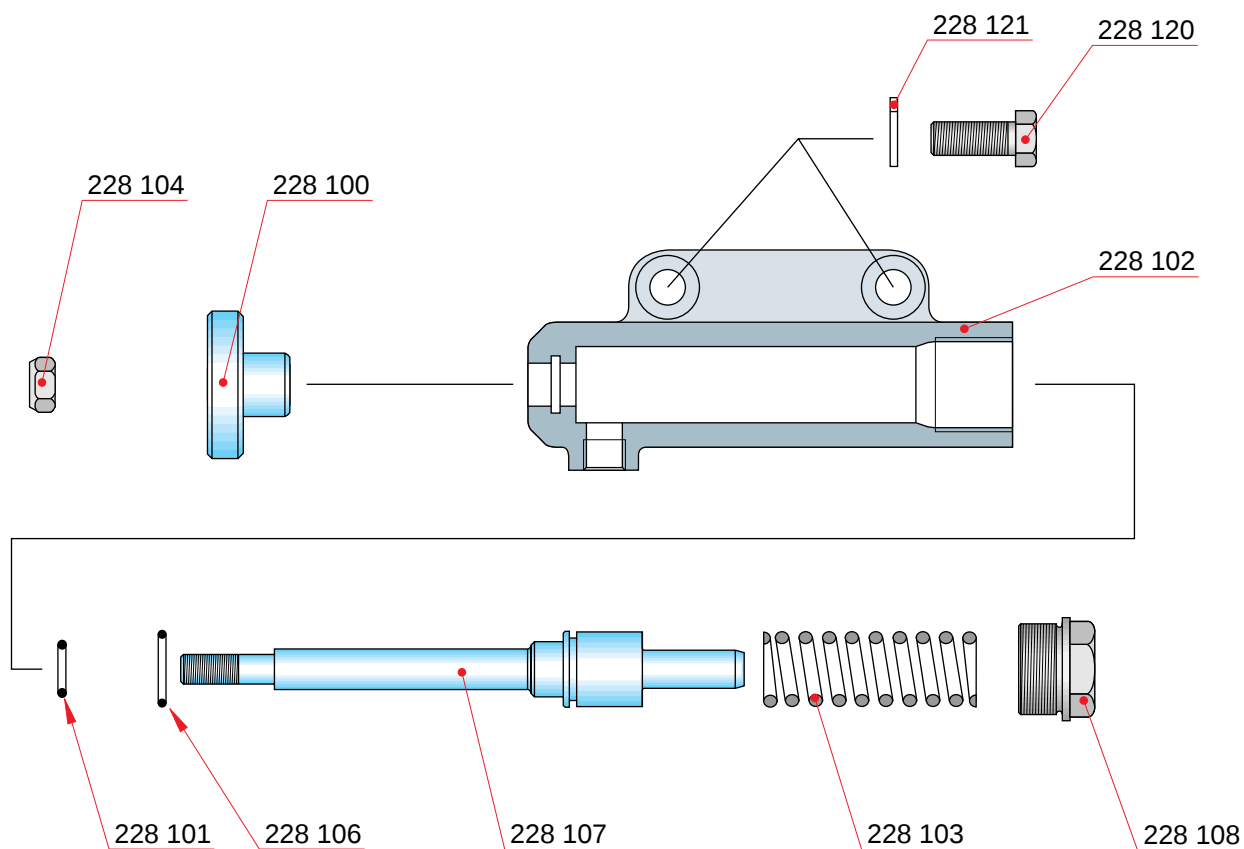
Cylinder for pneumatic overspeed trip device



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
228 115	Cylinder for pneumatic overspeed trip device	1	2.3				
228 100	Pull piece	1	0.2				
228 101	O-ring	1	-				
228 102	Cylinder	1	1.6				
228 103	Spring	1	-				
228 104	Nut	1	-				
228 105	Pipe union	1	-				
228 106	Slide O-ring	1	-				
228 107	Piston	1	0.2				
228 108	Plug	1	0.2				
228 120	Screw	1	-				
228 121	Locking washer	1	-				

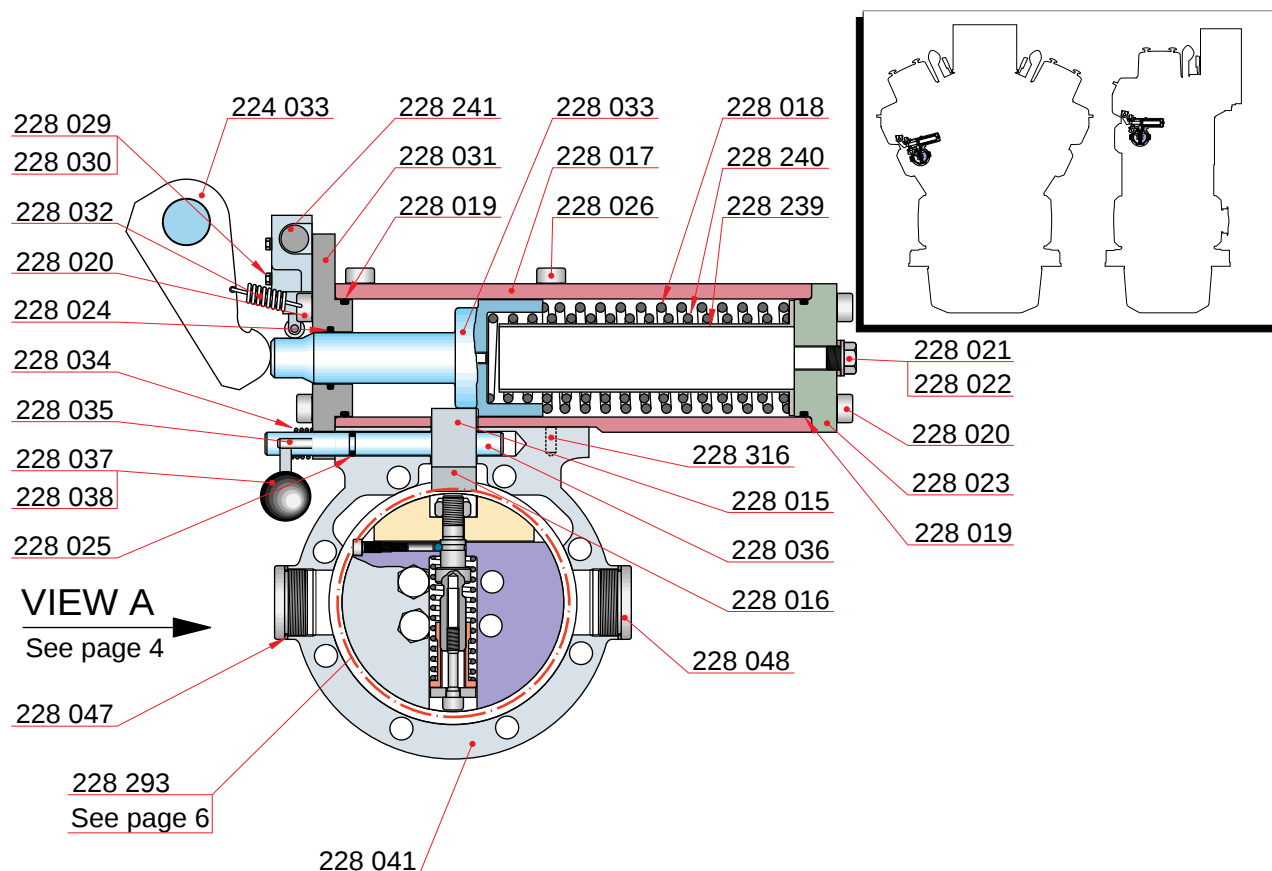
Edition: B
 Page: 2(2)
 Updated: 06.02.1995

Cylinder for pneumatic overspeed trip device



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
228 100	Pull piece	1	0.2				
228 101	O-ring	1	-				
228 102	Cylinder	1	1.6				
228 103	Spring	1	-				
228 104	Nut	1	-				
228 106	Slide O-ring	1	-				
228 107	Piston	1	0.2				
228 108	Plug	1	0.2				
228 120	Screw	2	-				
228 121	Locking washer	2	-				

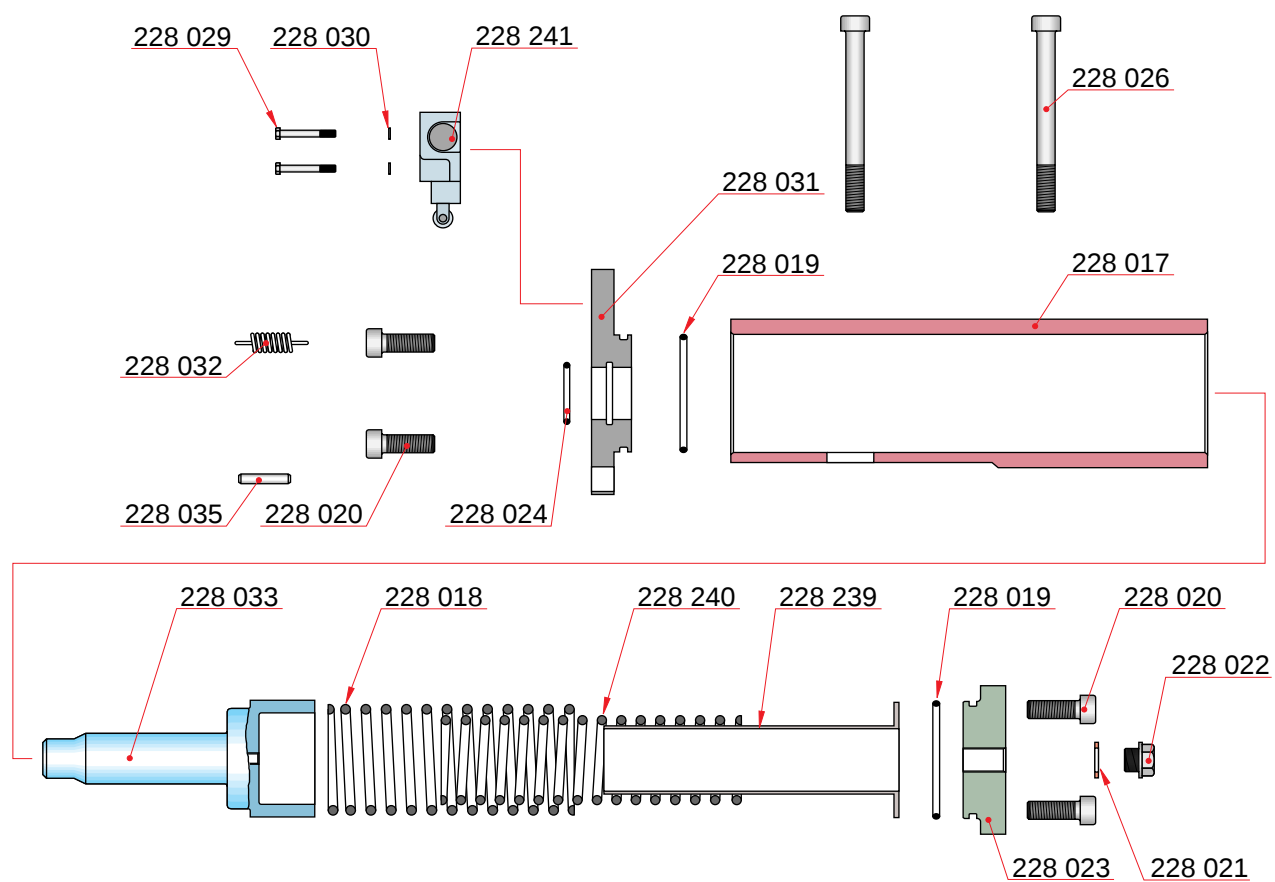
Mechanical overspeed trip device



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
224 033	Lever	1	-	228 038	Ball	1	-
228 015	Lever	1	0.3	228 041	Housing	1	13.9
228 016	Spring pin	1	-	228 047	Sealing ring	2	-
228 017	Housing	1	7.8	228 048	Plug	2	0.3
228 018	Spring, outer (1)	1	1.1	228 239	Spring retainer (2)	1	0.6
228 019	O-ring	2	-	228 240	Spring, inner (2)	1	0.9
228 020	Screw	8	-	228 241	Limit switch	1	0.3
228 021	Sealing ring	1	-	228 293	Overspeed trip device	1	3.0
228 022	Plug	1	-	228 316	Parallel pin	2	-
228 023	Flange	1	1.3				
228 024	O-ring	1	-	NOTE!	(1) In all cylinder configurations		
228 025	O-ring	1	-	NOTE!	(2) Only in V32, 8R and 9R engines.		
228 026	Screw	4	0.1				
228 029	Screw	2	-				
228 030	Tab washer	2	-				
228 031	Flange	1	1.5				
228 032	Spring	1	-				
228 033	Spindle	1	1.9				
228 034	Spring	1	-				
228 035	Spring pin	1	-				
228 036	Spindle	1	0.2				
228 037	Handle	1	-				

Edition: C
 Page: 2(8)
 Updated: 31.05.1999

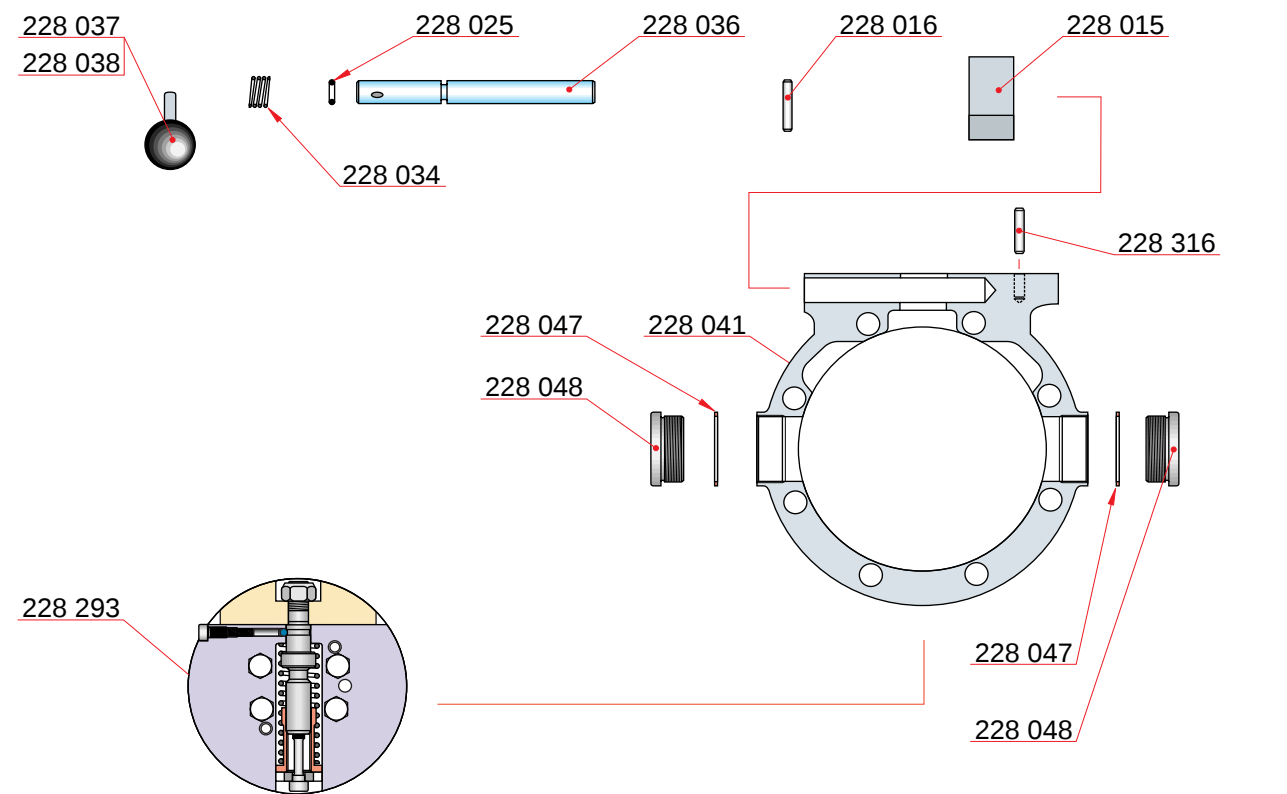
Mechanical overspeed trip device



Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Mechanical overspeed trip device

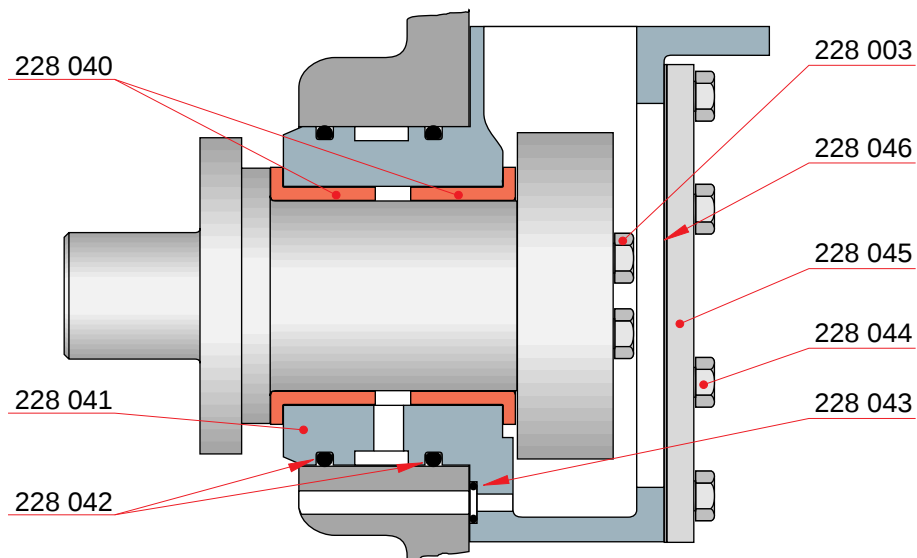


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

Edition: C
 Page: 4(8)
 Updated: 31.05.1999

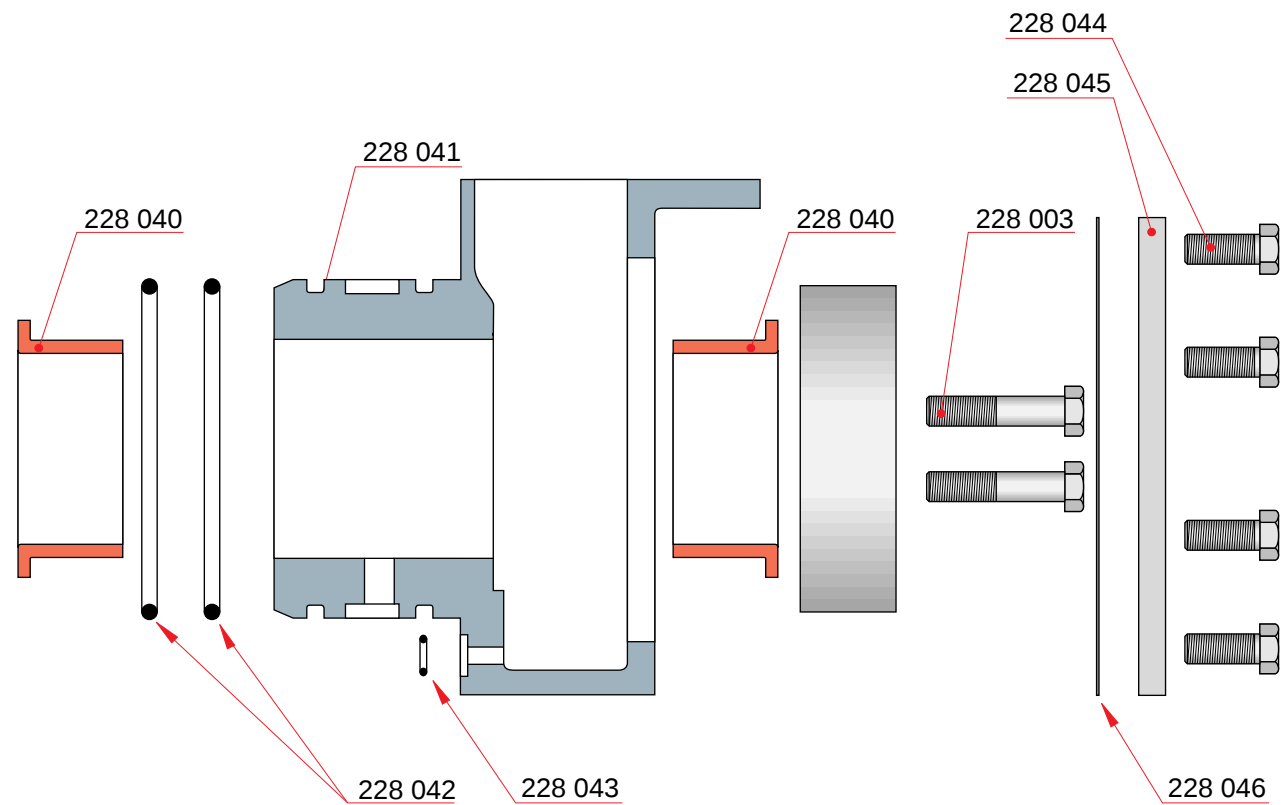
Mechanical overspeed trip device

VIEW A



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
228 003	Screw	4	-				
228 040	Camshaft bearing	2	0.7				
228 041	Housing	1	13.9				
228 042	O-ring	2	-				
228 043	O-ring	1	-				
228 044	Screw	8	0.1				
228 045	Cover	1	2.3				
228 046	Gasket	1	-				

Mechanical overspeed trip device

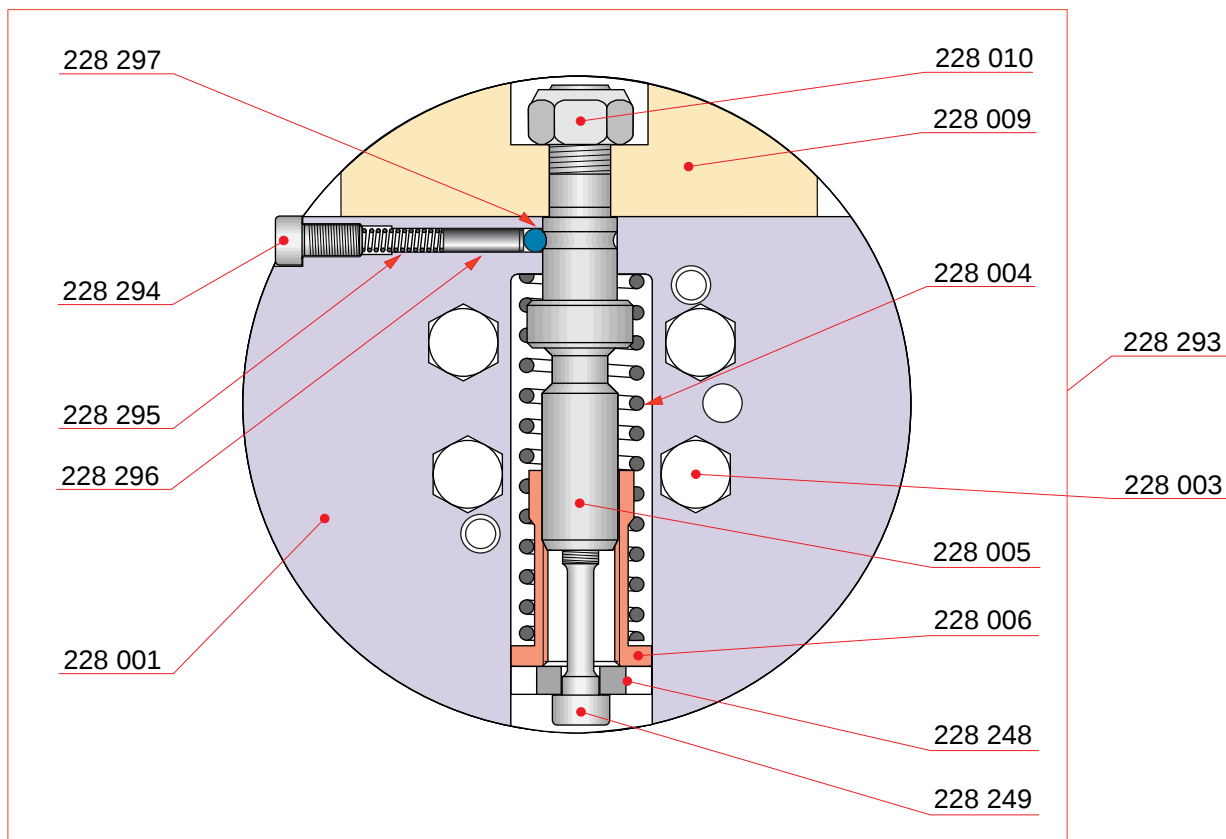


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

Edition: C

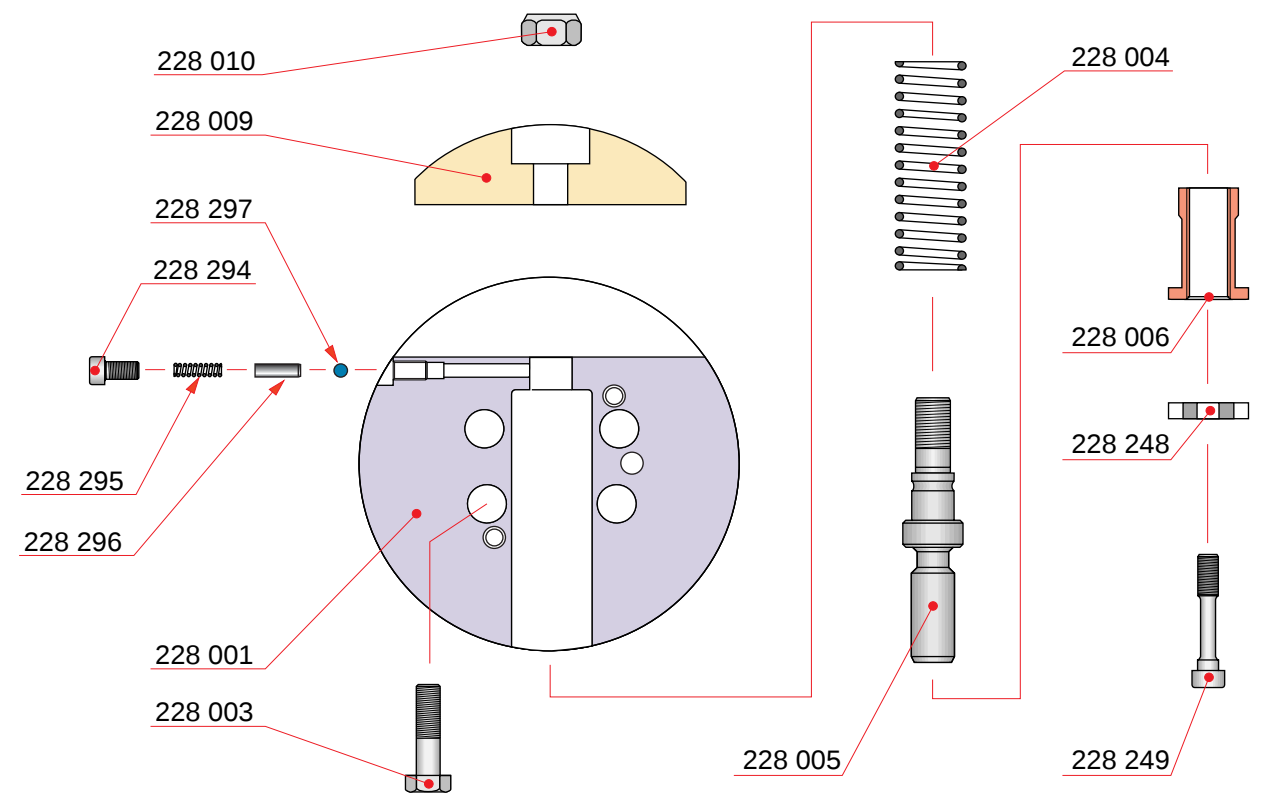
Page: 6(8)

Updated: 31.05.1999

Mechanical overspeed trip device

Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
228 003	Screw	4	-				
228 293	Overspeed trip device	1	3.0				
228 001	Housing	1	4.0				
228 004	Spring	1	-				
228 005	Spindle	1	0.1				
228 006	Spring retainer	1	-				
228 009	Flyweight	1	0.5				
228 010	Nut	1	-				
228 248	Washer	1	-				
228 249	Screw	1	-				
228 294	Screw	1	0.3				
228 295	Spring	1	-				
228 296	Pin	1	-				
228 297	Bearing ball	1	-				

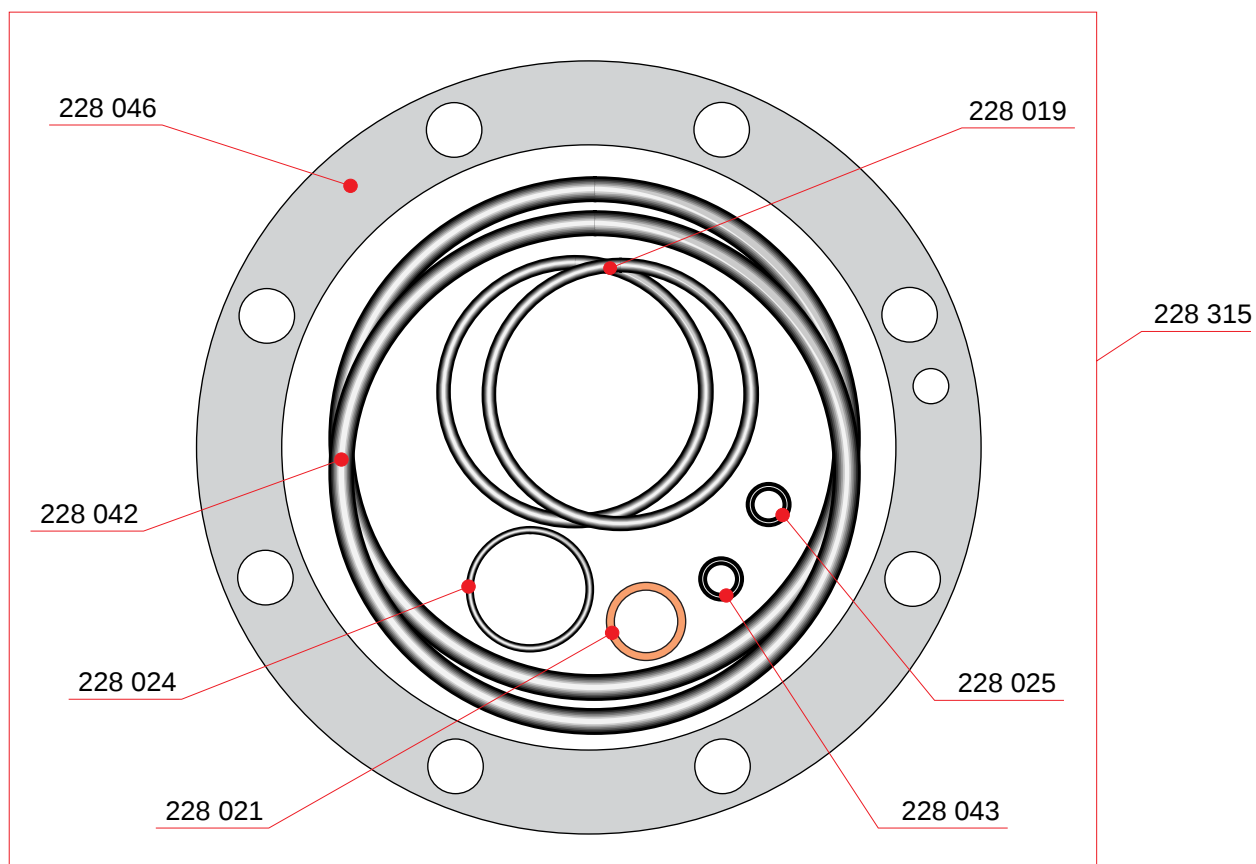
Mechanical overspeed trip device



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

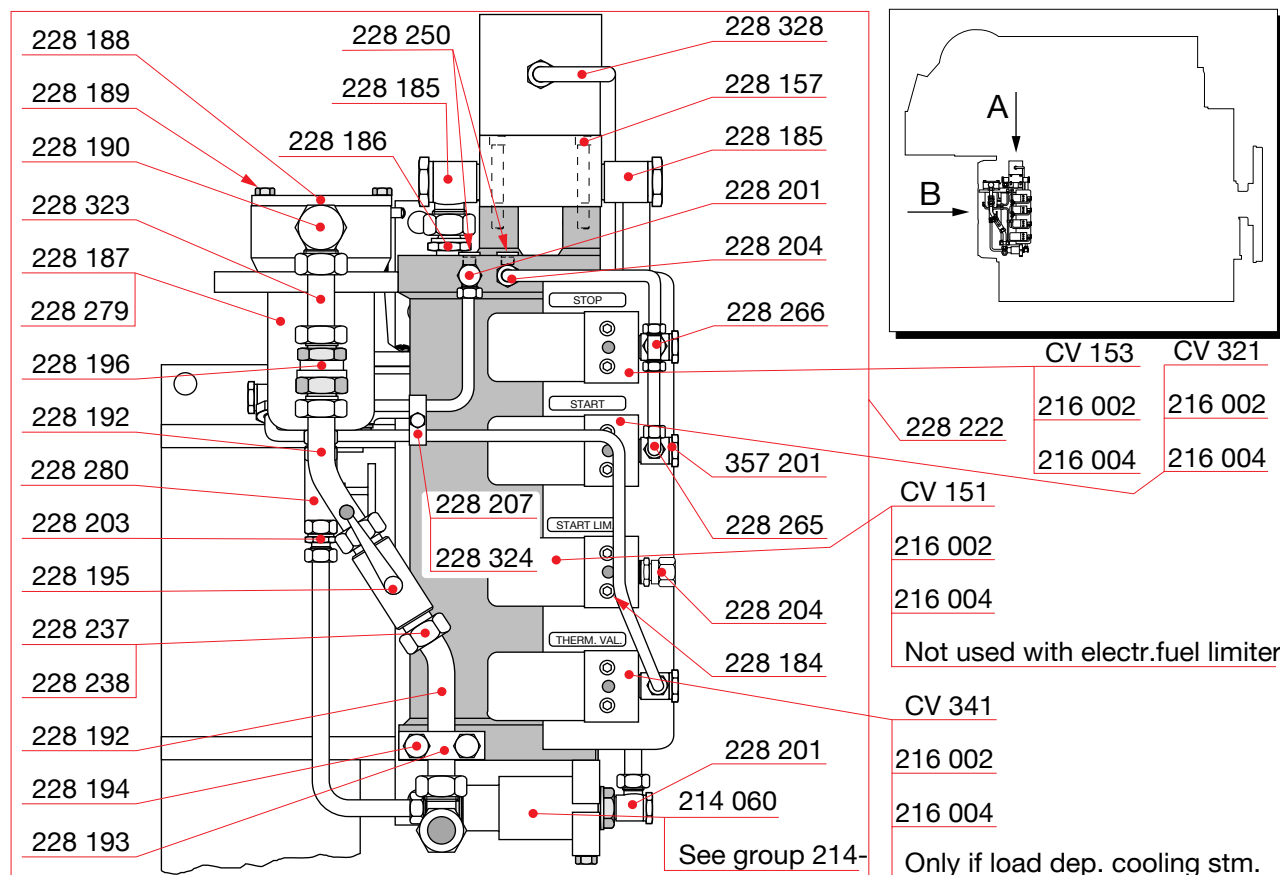
Edition: C
 Page: 8(8)
 Updated: 31.05.1999

Mechanical overspeed trip device



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
228 315	Sealing set	1	0.1				
228 019	O-ring	2	-				
228 021	Sealing ring	1	-				
228 024	O-ring	1	-				
228 025	O-ring	1	-				
228 042	O-ring	2	-				
228 043	O-ring	1	-				
228 046	Gasket	1	-				

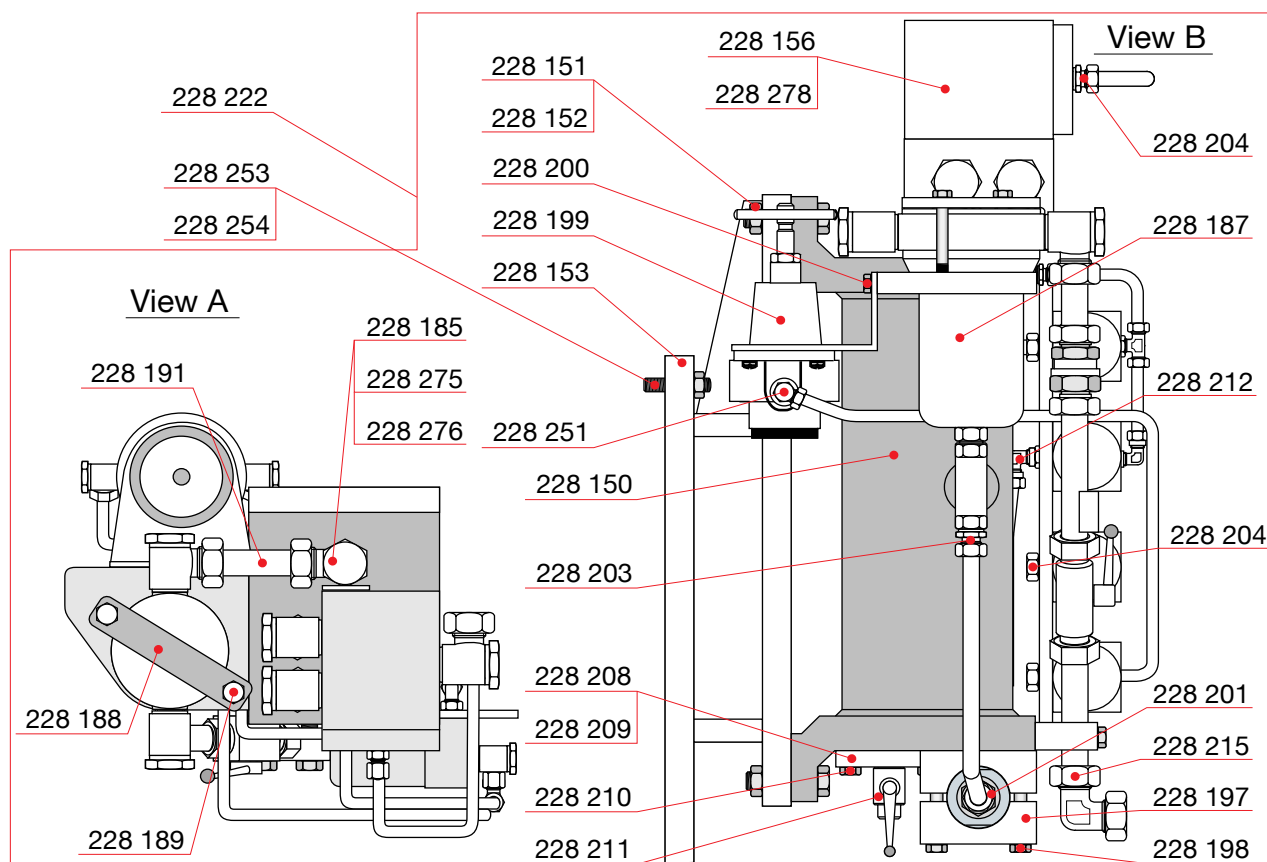
Air pipes for overspeed trip device



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
CV151	Sol. valve, fuel limiter	1	-	228 192	Pipe	2	-
216 002	Winding	1	-	228 193	Clamp	1	0.2
216 004	Repair kit	1	-	228 194	Screw	2	-
CV153	Solenoid valve, stop	1	-	228 195	Valve	1	0.4
216 002	Winding	1	-	228 196	Non-return valve	1	0.4
216 004	Repair kit	1	-	228 201	Pipe union	2	-
CV321	Solenoid valve	1	-	228 203	Pipe union	1	-
216 002	Winding	1	-	228 204	Pipe union	6	-
216 004	Repair kit	1	-	228 207	Bracket	1	-
CV341	High/low load solenoid	1	-	228 237	Cutting ring	2	-
216 002	Winding	1	-	228 238	Union nut	2	-
216 004	Repair kit	1	-	228 250	Plug	2	-
228 222	Air bottle for overspeed			228 265	Pipe union	1	-
	trip device		-	228 266	Pipe union	1	-
214 060	Valve, compl.	1	1.0	228 323	Pipe	1	0.1
228 157	Screw	2	-	228 324	Screw	1	-
228 184	Screw	8	-	228 328	Pipe	1	0.2
228 185	Pipe union	4	0.3	357 201	Pipe union	2	-
228 186	Pipe union	1	0.1	NOTE! (1) Valve 228 280 delivered with high pressure filter 228 187.			
228 187	High pressure filter	1	1.4				
228 279	Repair kit	1	-				
228 280	Valve (1)	1	0.3				
228 188	Bracket	1	0.2				
228 189	Screw	2	-				
228 190	Pipe union	2	0.3				

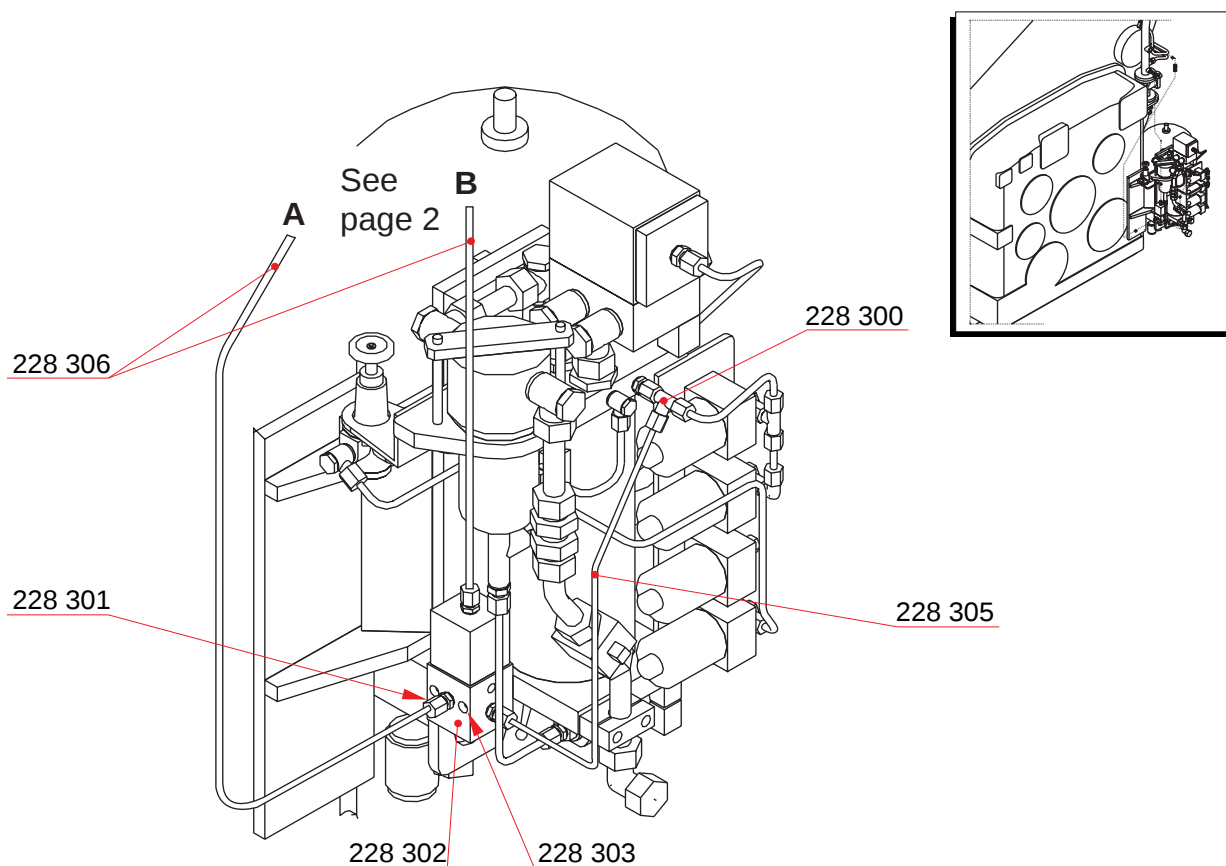
Edition: D
Page: 2(2)
Updated: 27.04.2004

Air pipes for overspeed trip device



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
228 253	Screw	4	-	228 211	Valve	1	0.2
228 254	Nut	4	-	228 212	Pipe union	1	-
228 222	Air bottle for overspeed trip device	-	-	228 215	Pipe union	1	0.2
228 150	Container for compressed air	1	11.0	228 251	Pipe union	2	-
228 151	Screw	4	-	228 275	Extension piece	1	0.1
228 152	Nut	4	-	228 276	Sealing ring	1	-
228 153	Bracket	1	-				
228 156	Solenoid valve, overspeed trip device	1	2.7				
228 278	Sealing set	1	-				
228 185	Pipe union	4	0.3				
228 187	High pressure filter	1	1.4				
228 188	Bracket	1	0.2				
228 189	Screw	2	-				
228 191	Pipe	2	-				
228 197	Clamp	1	0.4				
228 198	Screw	2	-				
228 199	Pressure regulator	1	-				
228 200	Screw	2	-				
228 201	Pipe union	2	-				
228 203	Pipe union	1	-				
228 204	Pipe union	6	-				
228 208	Flange	1	0.4				
228 209	O-ring	1	-				
228 210	Screw	4	-				

Control air piping for starting booster



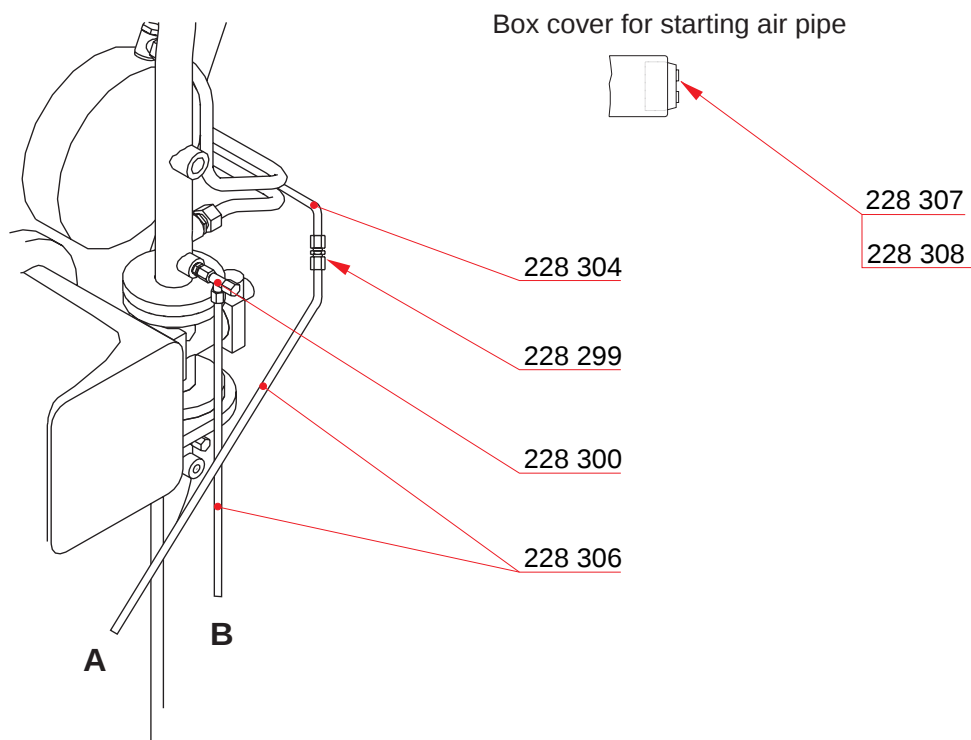
Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
228 300	Pipe union	2	-				
228 301	Pipe union	3	-				
228 302	Valve	1	0.8				
228 303	Screw	2	-				
228 305	Pipe (1)	1	0.2				
228 306	Pipe (2)	1	0.2				

NOTE! (1) L= 500 mm

NOTE! (2) L= 1500 mm

Edition: A
 Page: 2(2)
 Updated: 04.06.1998

Control air piping for starting booster

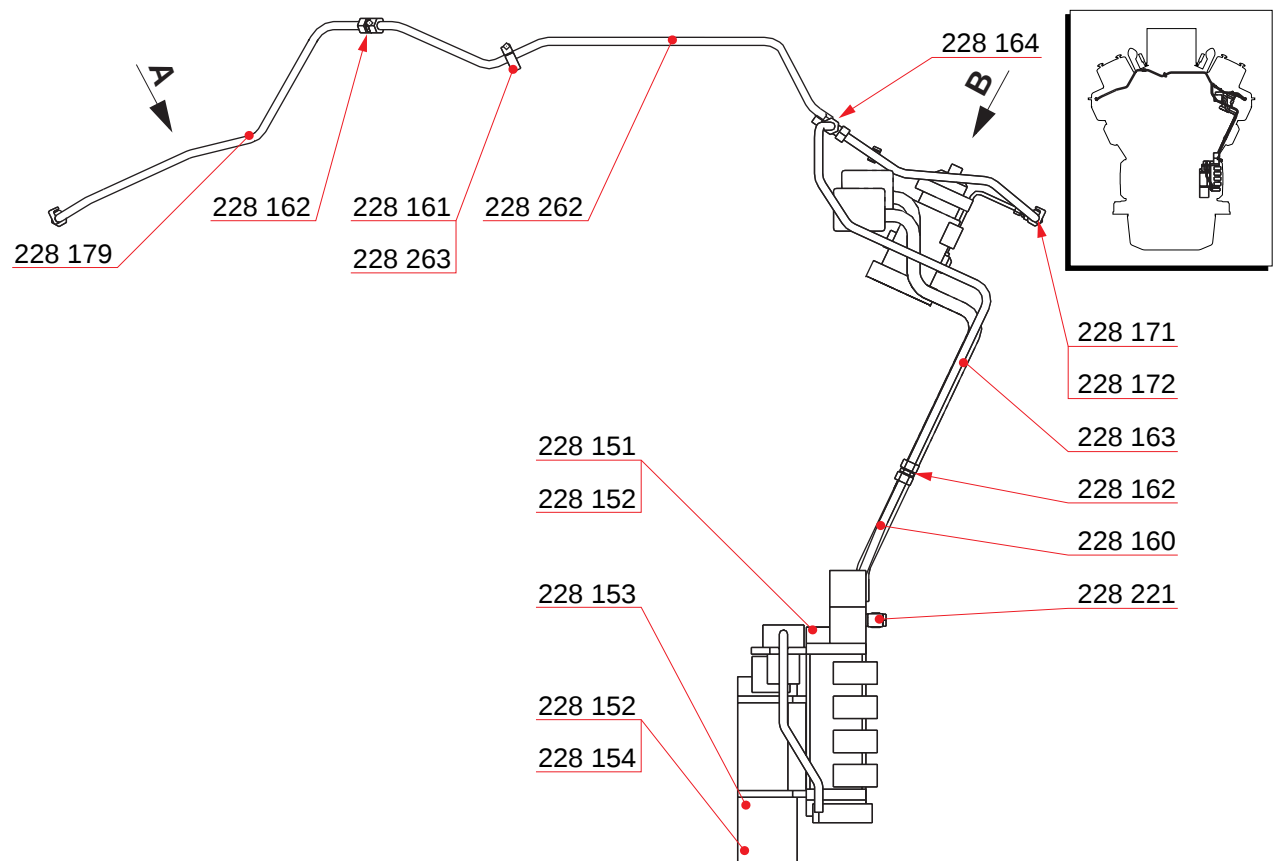


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
228 299	Pipe union	2	-				
228 300	Pipe union	2	-				
228 304	Pipe (3)	1	0.2				
228 306	Pipe (2)	1	0.2				
228 307	Plug	1	-				
228 308	Sealing ring	1	-				

NOTE! (2) L= 1500mm

NOTE! (3) L= 6000 mm

Piping for pneumatic overspeed trip device



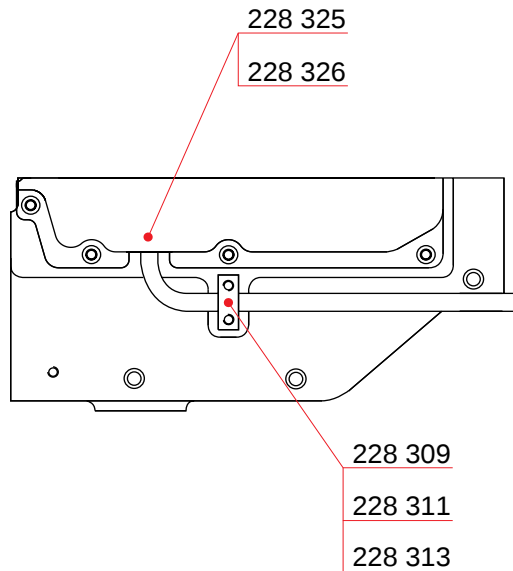
Part No.	Description	Qty [Pcs]	Wt. [Kg]
228 151	Screw	1	-
228 152	Nut	8	-
228 153	Bracket	1	-
228 154	Screw	4	-
228 160	Pipe	1	-
228 161	Pipe clamp	1	-
228 162	Pipe union	2	-
228 163	Pipe	1	-
228 164	Pipe union	1	-
228 171	Pipe clamp	20	-
228 172	Screw	20	-
228 179	Pipe	1	-
228 221	Pipe union	1	-
228 262	Pipe	1	-
228 263	Screw	2	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

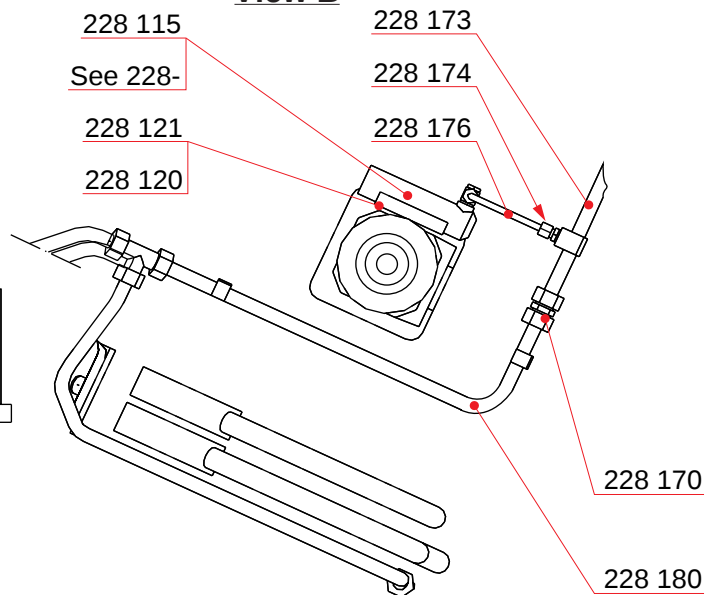
Edition: A
 Page: 2(3)
 Updated: 03.10.2001

Piping for pneumatic overspeed trip device

View A



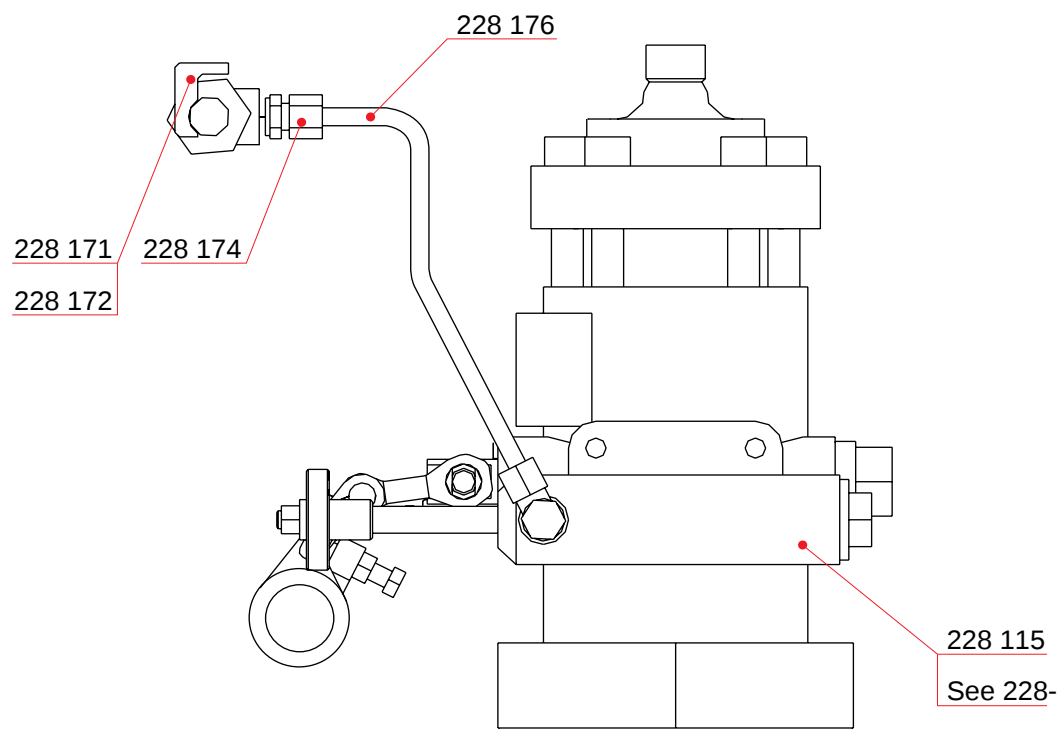
View B



Part No.	Description	Qty [Pcs]	Wt. [Kg]
228 115	Cylinder for pneumatic overspeed trip device	18	-
228 120	Screw	36	-
228 121	Locking washer	36	-
228 170	Pipe union	2	-
228 173	Pipe	2	-
228 174	Pipe union	18	-
228 176	Pipe	18	-
228 180	Pipe	1	-
228 309	Pipe clamp	1	-
228 311	Screw	2	-
228 313	Nut	2	-
228 325	Cover	1	-
228 326	Screw	3	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

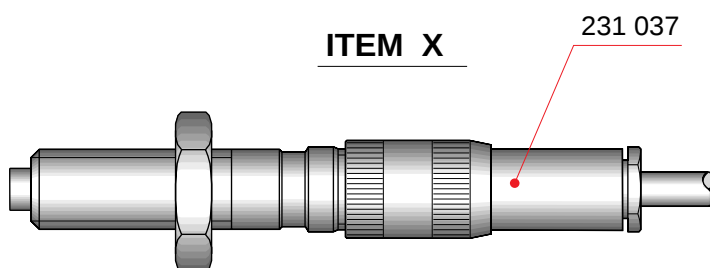
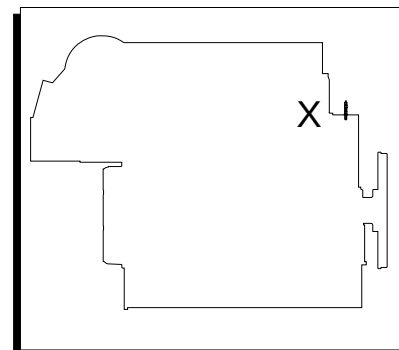
Piping for pneumatic overspeed trip device



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
228 115	Cylinder for pneumatic overspeed trip device	18	-				
228 171	Pipe clamp	20	-				
228 172	Screw	20	-				
228 174	Pipe union	18	-				
228 176	Pipe	18	-				

This page is intentionally left blank.

Speed pick-ups

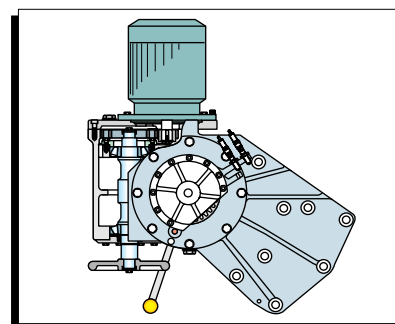
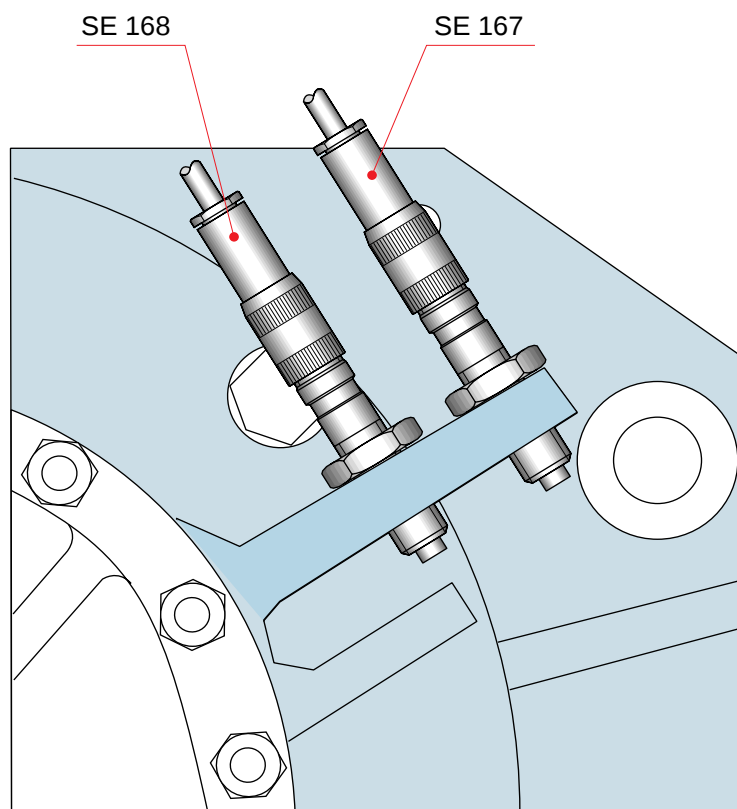


Part No.	Description	Qty [Pcs]	Wt. [Kg]
231 037	Speed pick-up	1	0.1

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Speed pick-ups

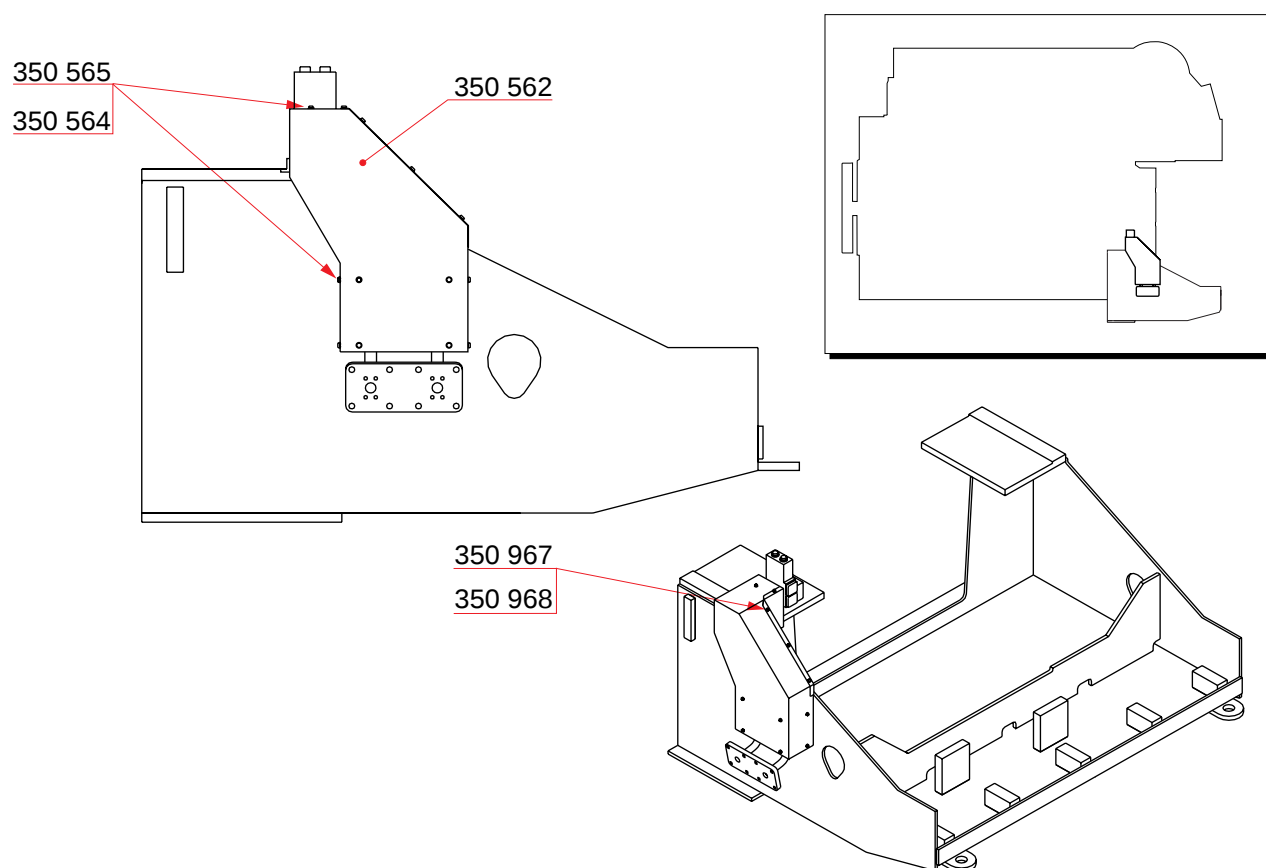


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
SE167	Speed pick-up	1	-				
SE168	Speed pick-up (1)	1	-				

NOTE! (1) Not always used.

This page is intentionally left blank.

Cover for fuel pipes

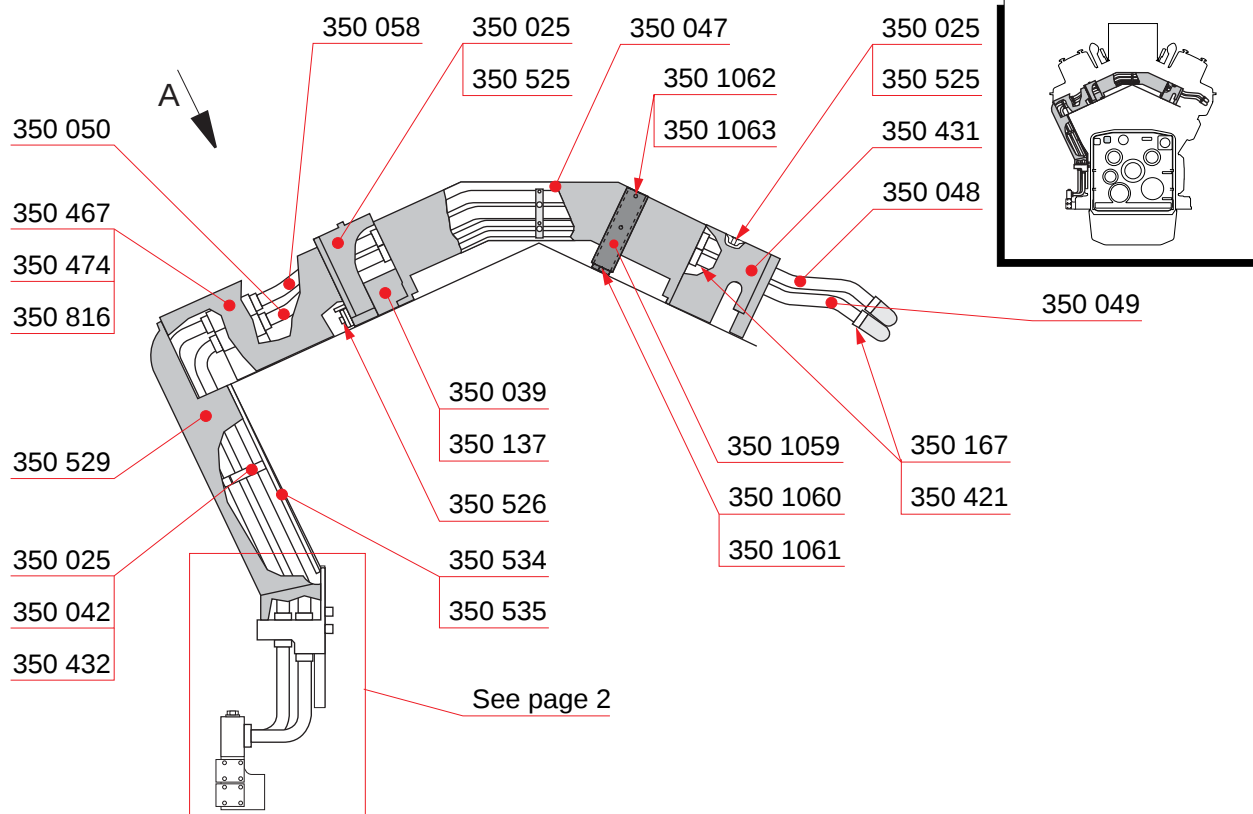


Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 562	Cover	1	-
350 967	Screw	4	-
350 968	Washer	4	-
350 564	Washer	9	-
350 565	Screw	9	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

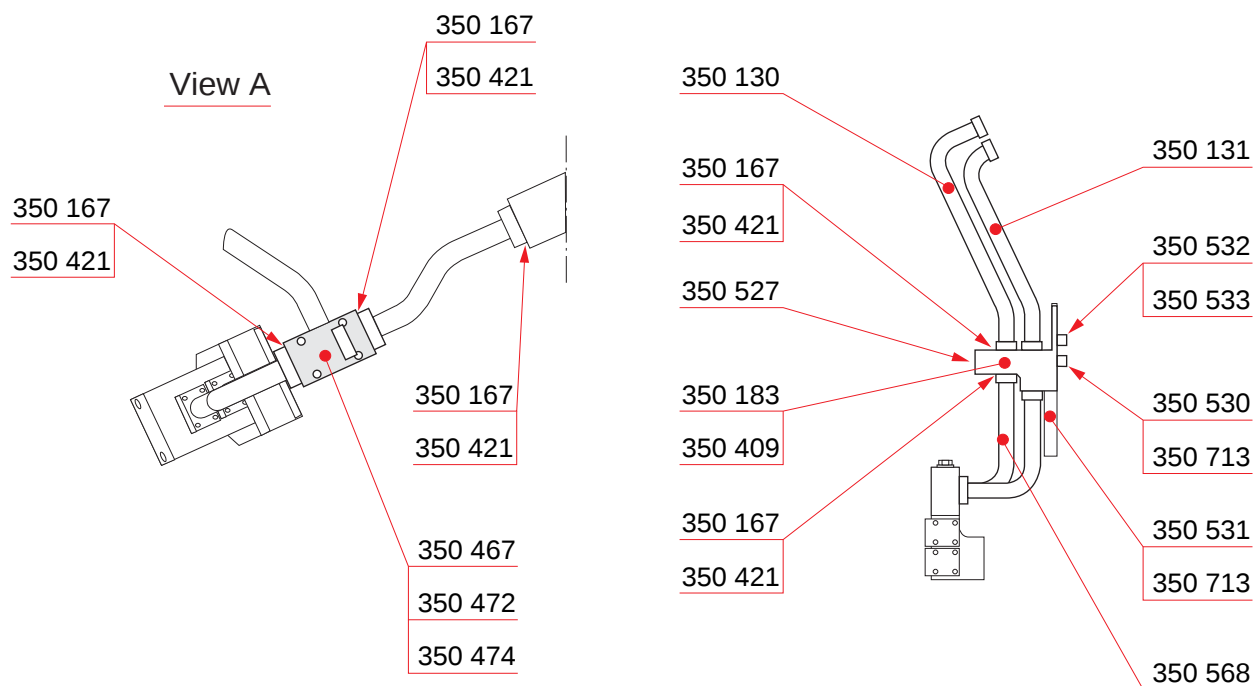
Fuel system at free end



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 025	Nut	7	-	350 1060	Screw	4	-
350 039	Screw	4	-	350 1061	Distance sleeve	4	-
350 042	Bracket	1	-	350 1062	Screw	4	-
350 047	Pipe set	1	-	350 1063	Distance sleeve	4	-
350 048	Pipe, A bank	1	-				
350 049	Pipe, A bank	1	-				
350 050	Pipe, B bank	1	-				
350 058	Pipe, B bank	1	-				
350 137	Cover	1	-				
350 167	O-ring	12	-				
350 421	Screw	48	-				
350 431	Cover	1	-				
350 432	Screw	2	-				
350 467	Distance piece	1	-				
350 474	Nut	7	-				
350 525	Screw	5	-				
350 526	Screw	2	-				
350 529	Cover	1	-				
350 534	Bottom plate	1	-				
350 535	Screw	14	-				
350 816	Screw	3	-				
350 1059	Bracket	2	-				

Edition: C
 Page: 2(2)
 Updated: 27.09.2004

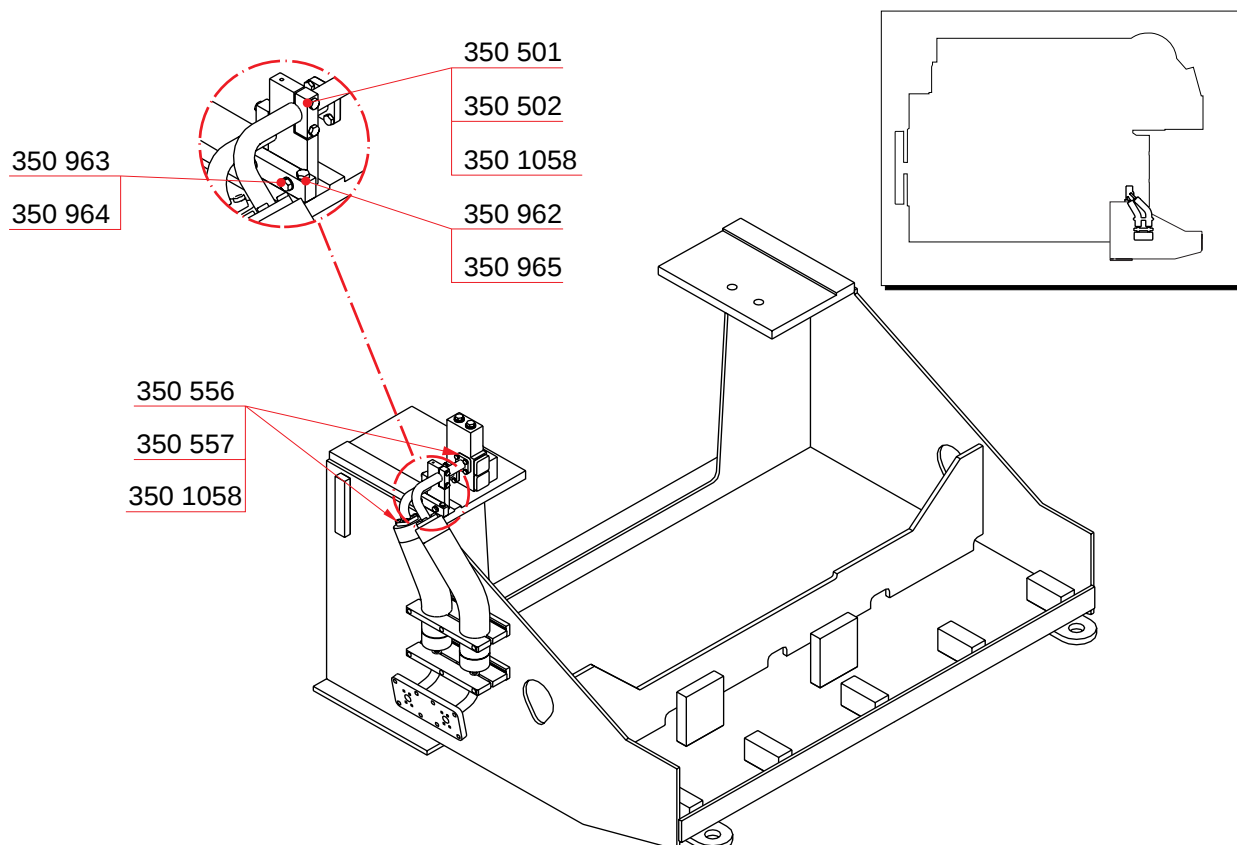
Fuel system at free end



Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 130	Pipe	1	-
350 131	Pipe	1	-
350 167	O-ring	12	-
350 183	Connection piece	1	-
350 409	Screw	2	-
350 421	Screw	48	-
350 467	Distance piece	1	-
350 472	Screw	4	-
350 474	Nut	7	-
350 527	Screw	2	-
350 530	Distance sleeve	2	-
350 531	Bottom plate	1	-
350 532	Screw	1	-
350 533	Distance sleeve	1	-
350 568	Pipe	1	-
350 713	Screw	4	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Fuel pipes from engine to base frame



Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 501	Pipe clamp	1	3.3
350 502	Screw	4	-
350 556	O-ring	6	-
350 557	Screw	24	-
350 962	Supporting plate	1	1.0
350 963	Screw	2	-
350 964	Washer	12	-
350 965	Screw	6	-
350 1058	Washer	28	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

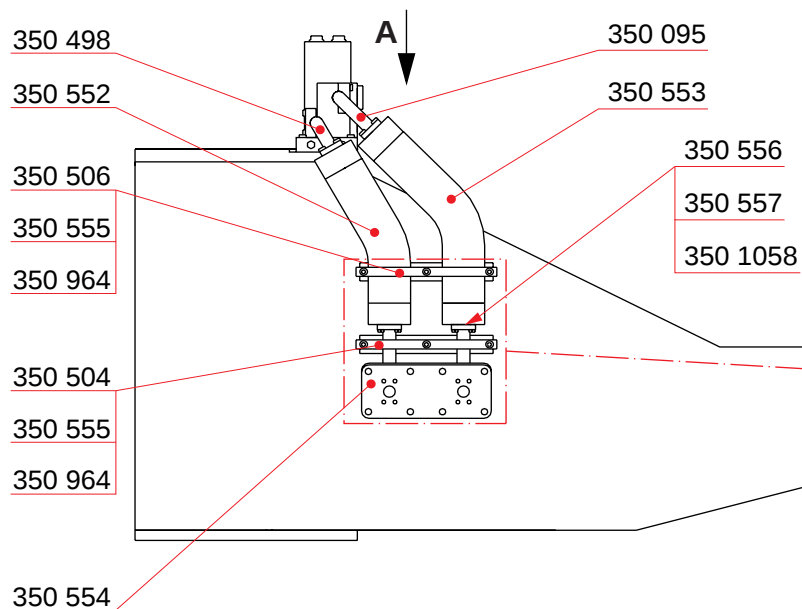
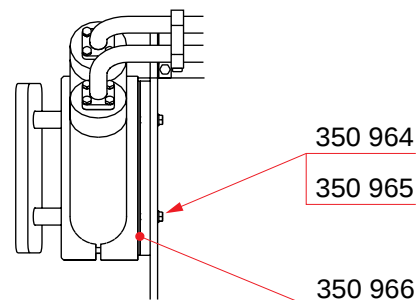
Edition: D

Page: 2(2)

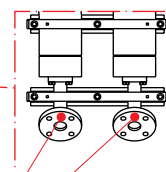
Updated: 22.09.2004

Fuel pipes from engine to base frame

View A

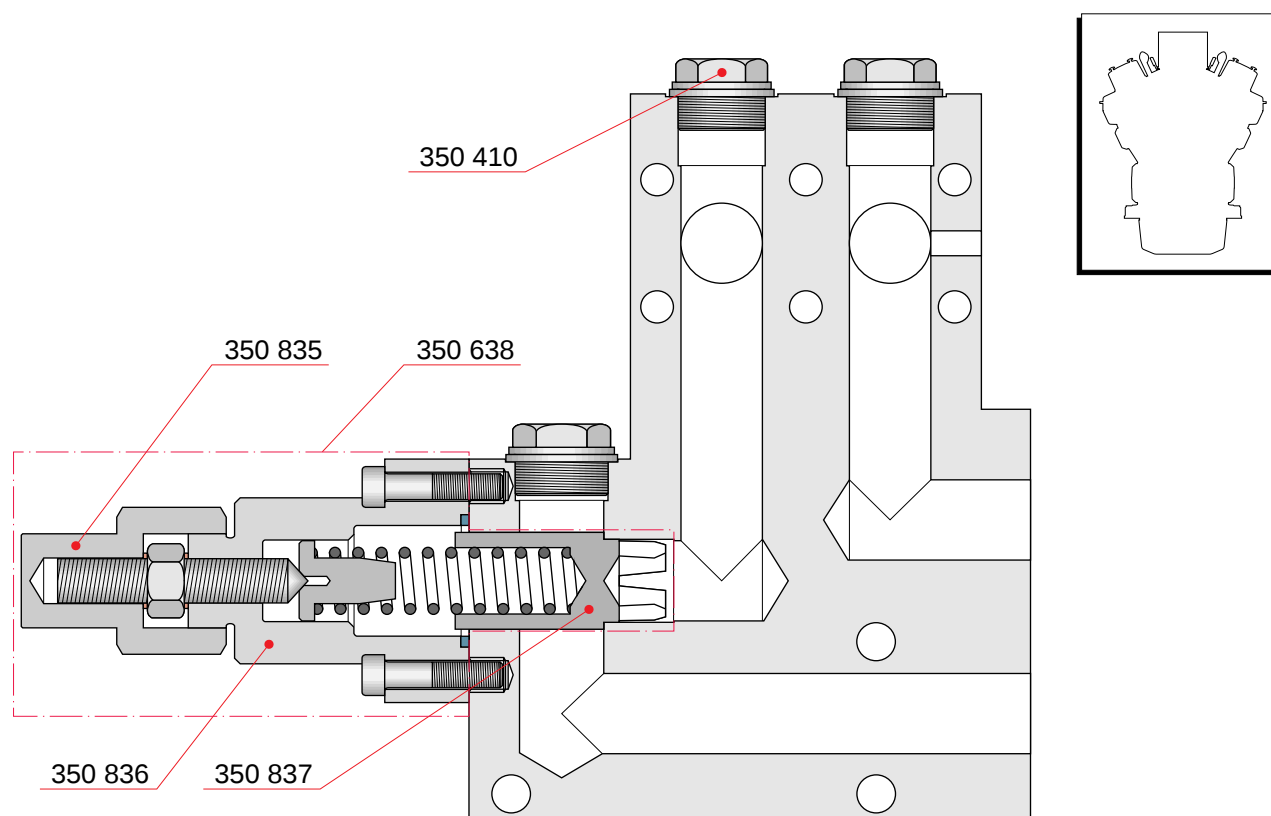


Alternative design



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 095	Pipe	1	-				
350 498	Pipe	1	-				
350 504	Pipe clamp	1	10.0				
350 506	Pipe clamp	1	6.5				
350 552	Pipe	1	8.5				
350 553	Pipe	1	9.3				
350 554	Pipe	1	-				
350 555	Screw	6	-				
350 556	O-ring	6	-				
350 557	Screw	24	-				
350 964	Washer	12	-				
350 965	Screw	6	-				
350 966	Distance plate	2	0.4				
350 969	Pipe	2	1.7				
350 1058	Washer	28	-				

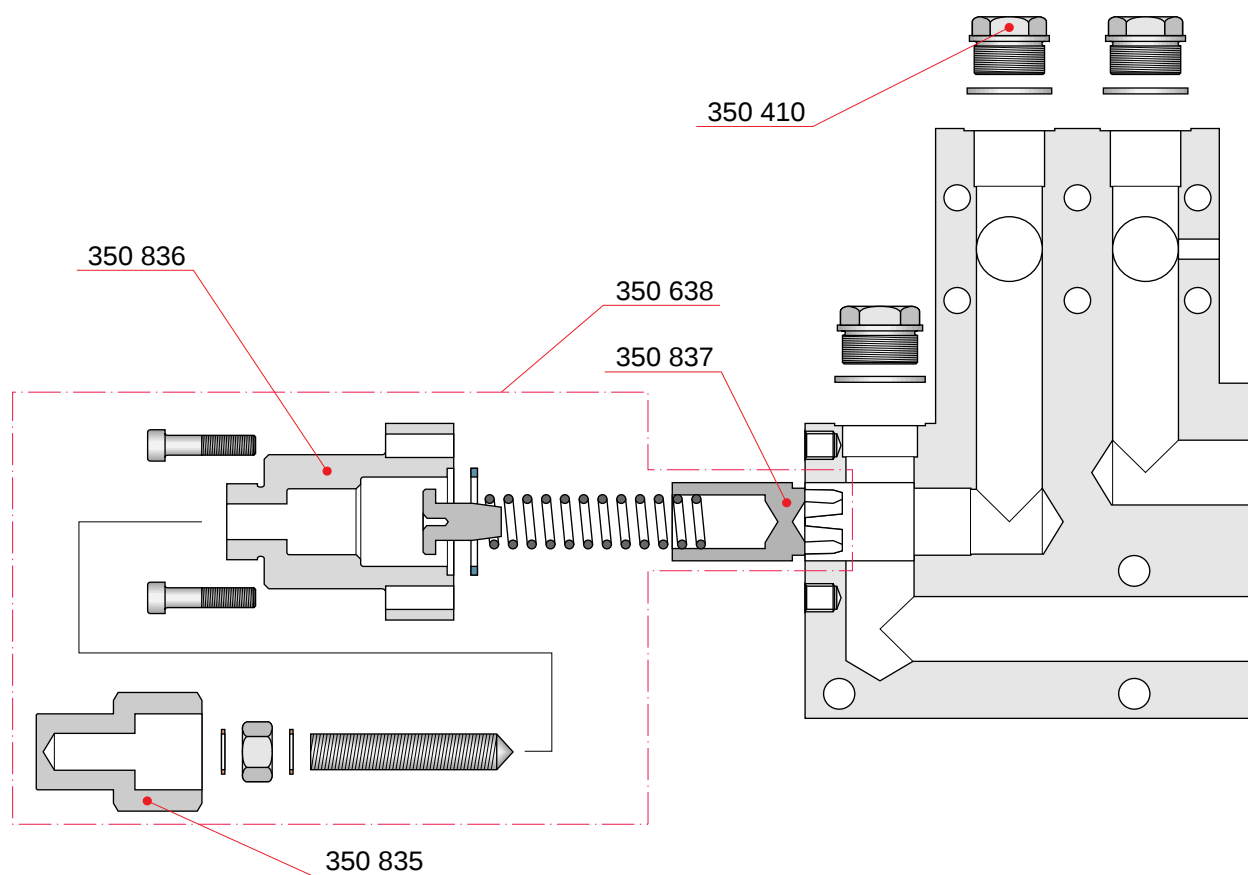
Pressure valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 410	Plug	3	-				
350 638	Valve	1	30.0				
350 835	Protecting sleeve	1	-				
350 836	Cover	1	-				
350 837	Piston	1	-				

Edition: A
Page: 2(2)
Updated: 12.09.2001

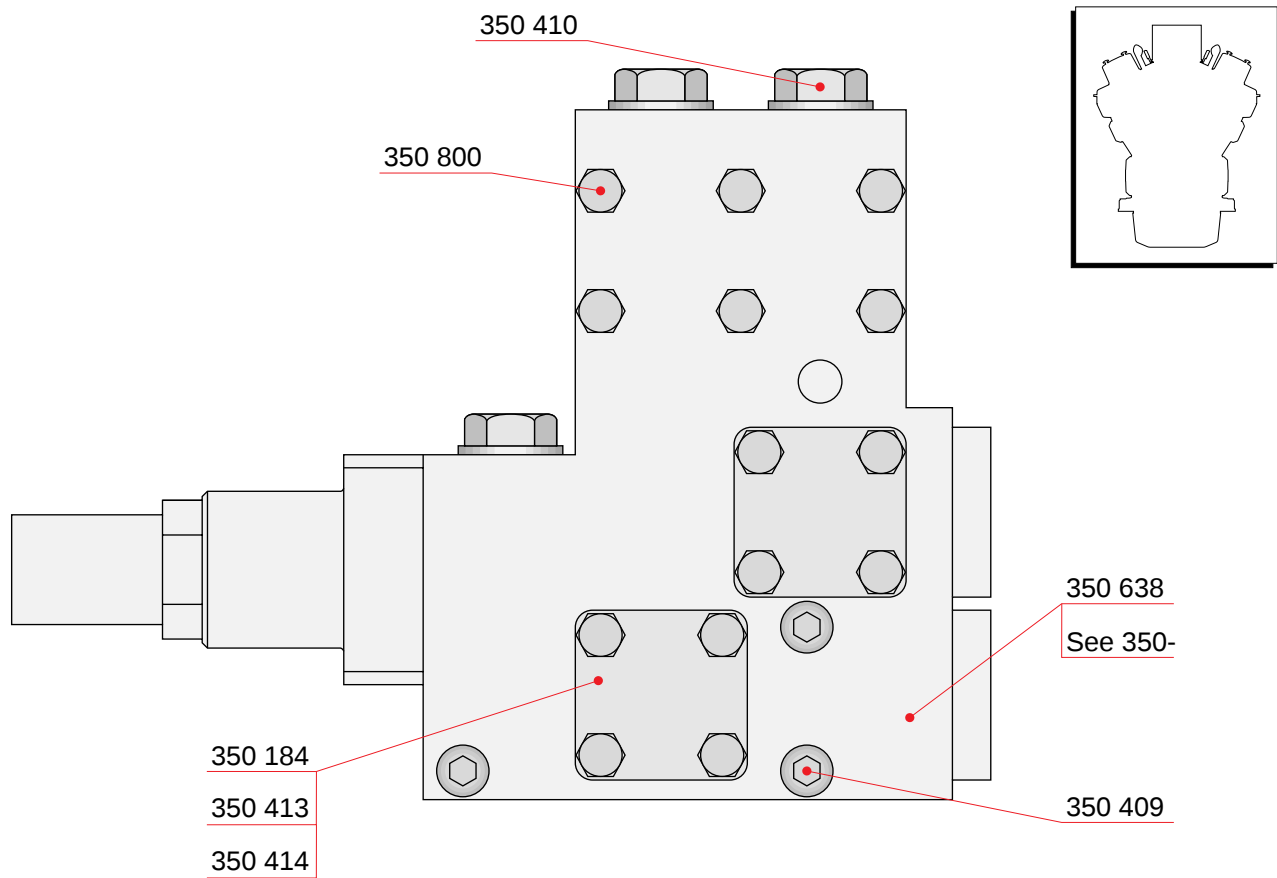
Pressure valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 410	Plug	3	-
350 638	Valve	1	30.0
350 835	Protecting sleeve	1	-
350 836	Cover	1	-
350 837	Piston	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

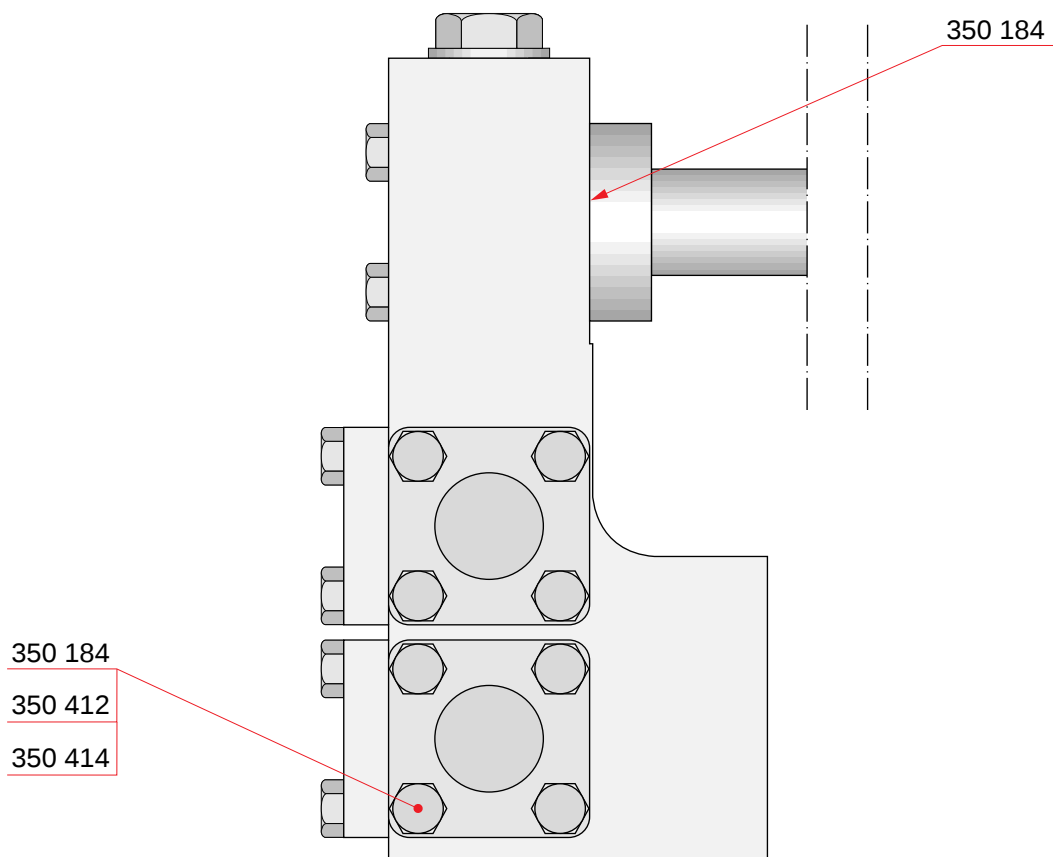
Pressure valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 184	O-ring	6	-				
350 409	Screw	3	0.1				
350 410	Plug	1	-				
350 412	Flange	2	0.3				
350 413	Flange	2	0.4				
350 414	Screw	16	-				
350 638	Valve	1	30.0				
350 800	Screw	6	-				

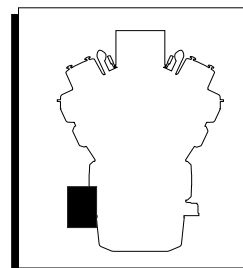
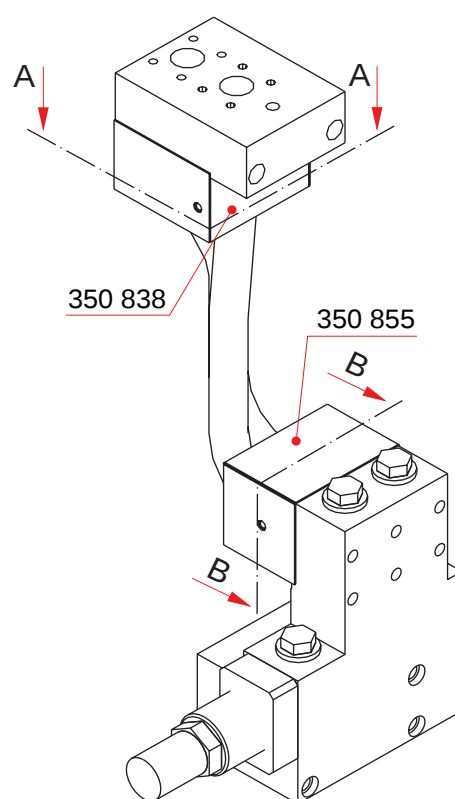
Edition: A
Page: 2(2)
Updated: 29.10.2001

Pressure valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 184	O-ring	6	-				
350 412	Flange	2	0.3				
350 414	Screw	16	-				

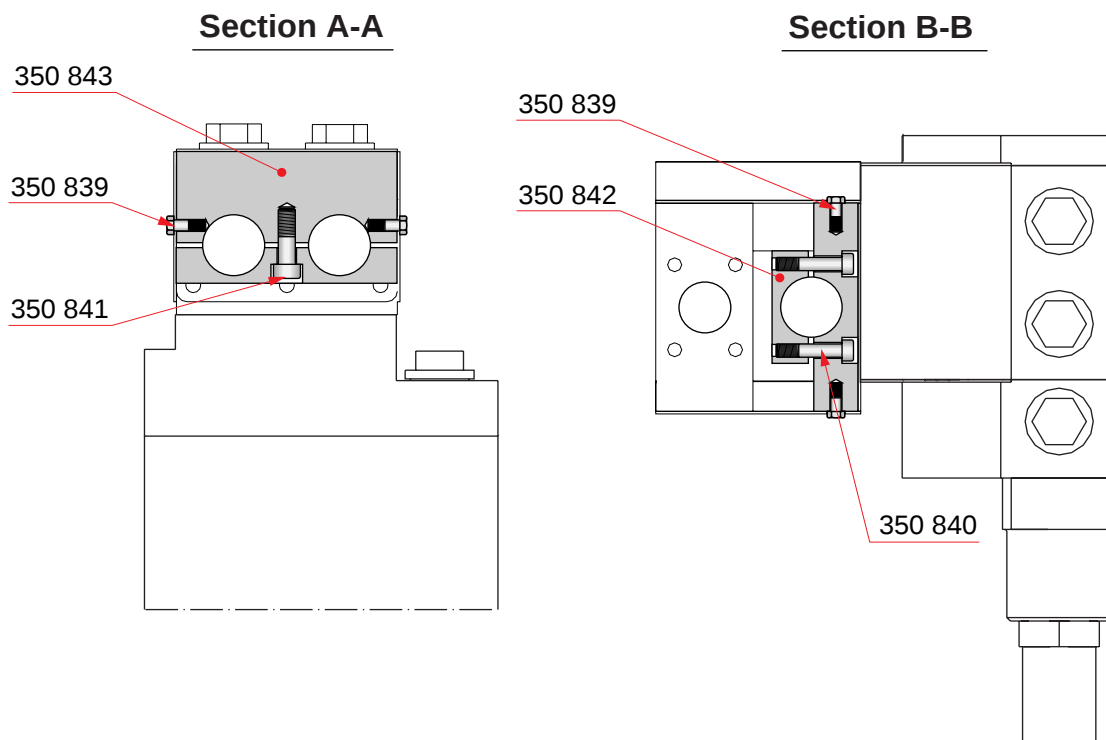
Cover for fuel pipes



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 838	Cover	1	-				
350 855	Cover	1	-				

Edition: A
Page: 2(2)
Updated: 07.06.2004

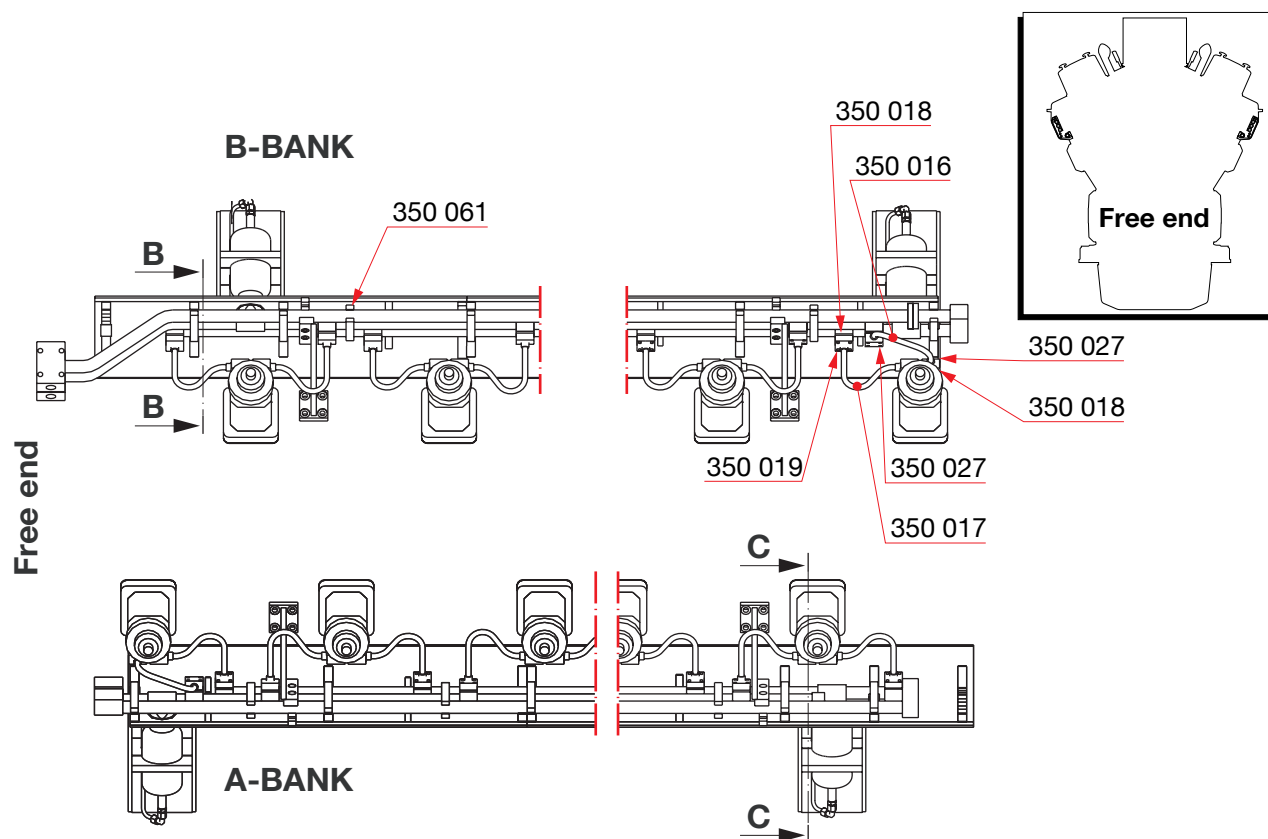
Cover for fuel pipes



Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 839	Screw	4	-
350 840	Screw	2	-
350 841	Screw	1	-
350 842	Pipe clamp	1	-
350 843	Pipe clamp	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

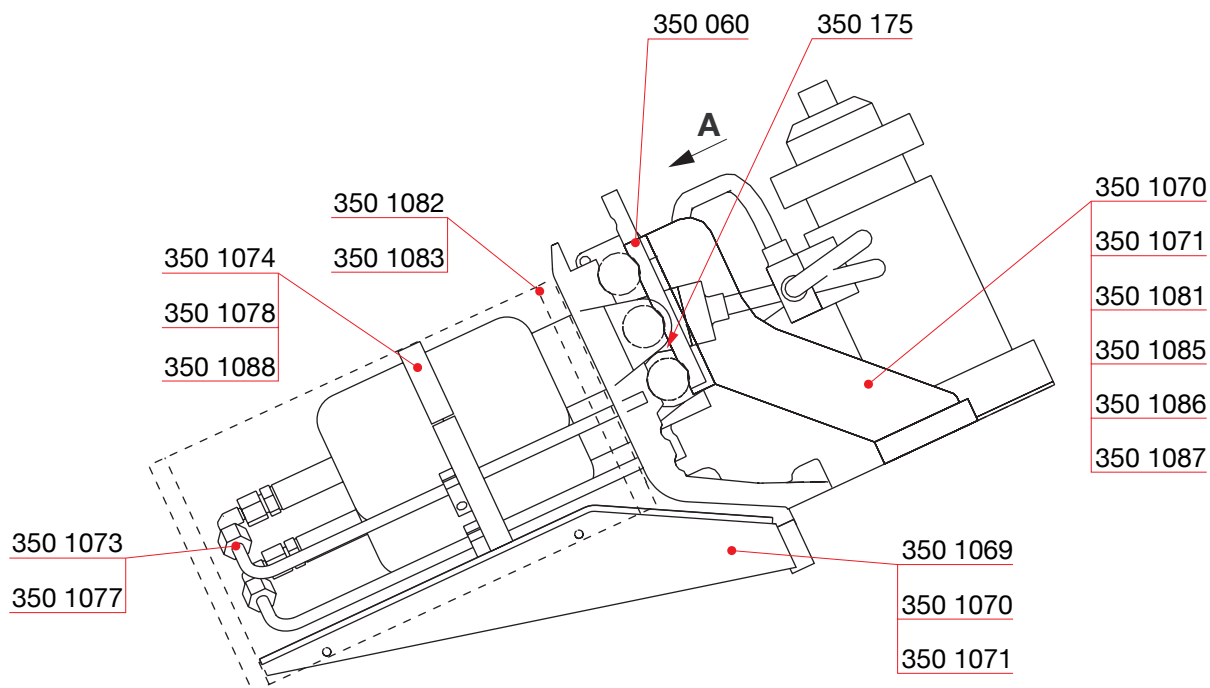
Fuel pipes



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 016	Pipe	2	-				
350 017	Pipe	34	-				
350 018	O-ring	72	-				
350 019	Screw	136	-				
350 027	Screw	152	-				
350 061	Pipe clamp	16	-				

Edition: B
 Page: 2(4)
 Updated: 25.11.2005

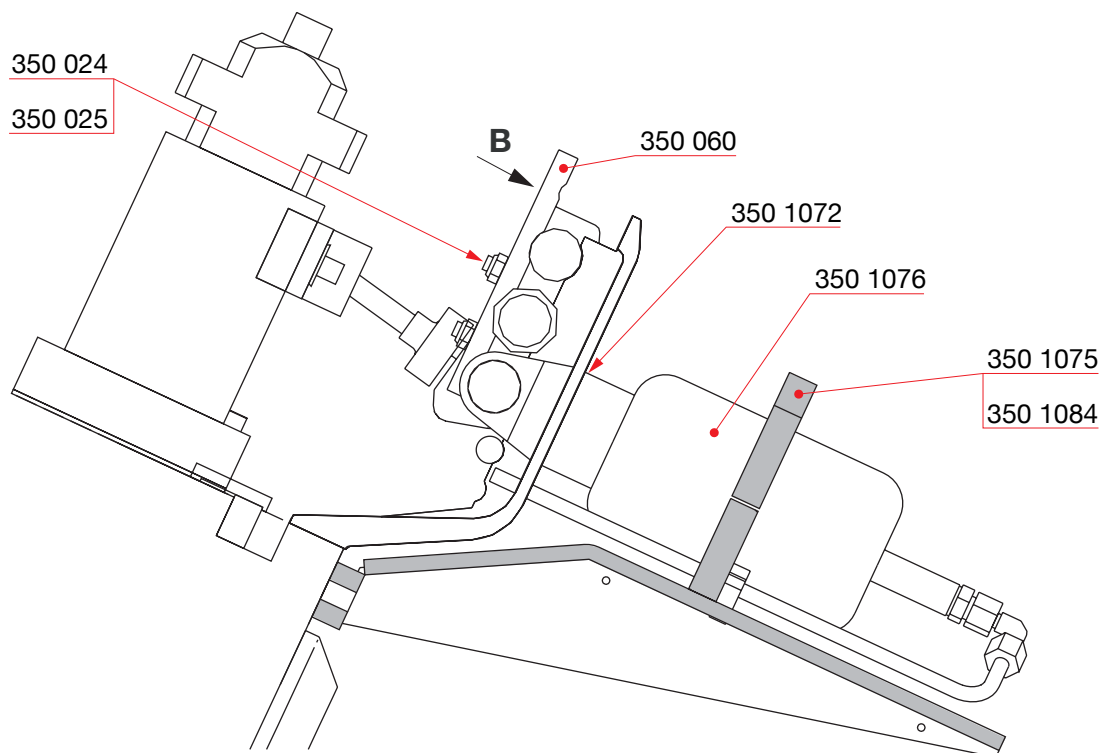
Fuel pipes



Section B-B

Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 060	Pipe clamp	37	-				
350 175	Screw	32	-				
350 1069	Support	4	-				
350 1070	Screw	28	-				
350 1071	Distance sleeve	28	-				
350 1073	Adjustable angle union	4	-				
350 1074	Clamp	2	-				
350 1077	Pipe	4	-				
350 1078	Screw	4	-				
350 1081	Bracket	4	-				
350 1082	Cover	4	-				
350 1083	Screw	28	-				
350 1085	Pipe clamp	4	-				
350 1086	Stud	8	-				
350 1087	Lock nut	16	-				
350 1088	Washer	4	-				

Fuel pipes

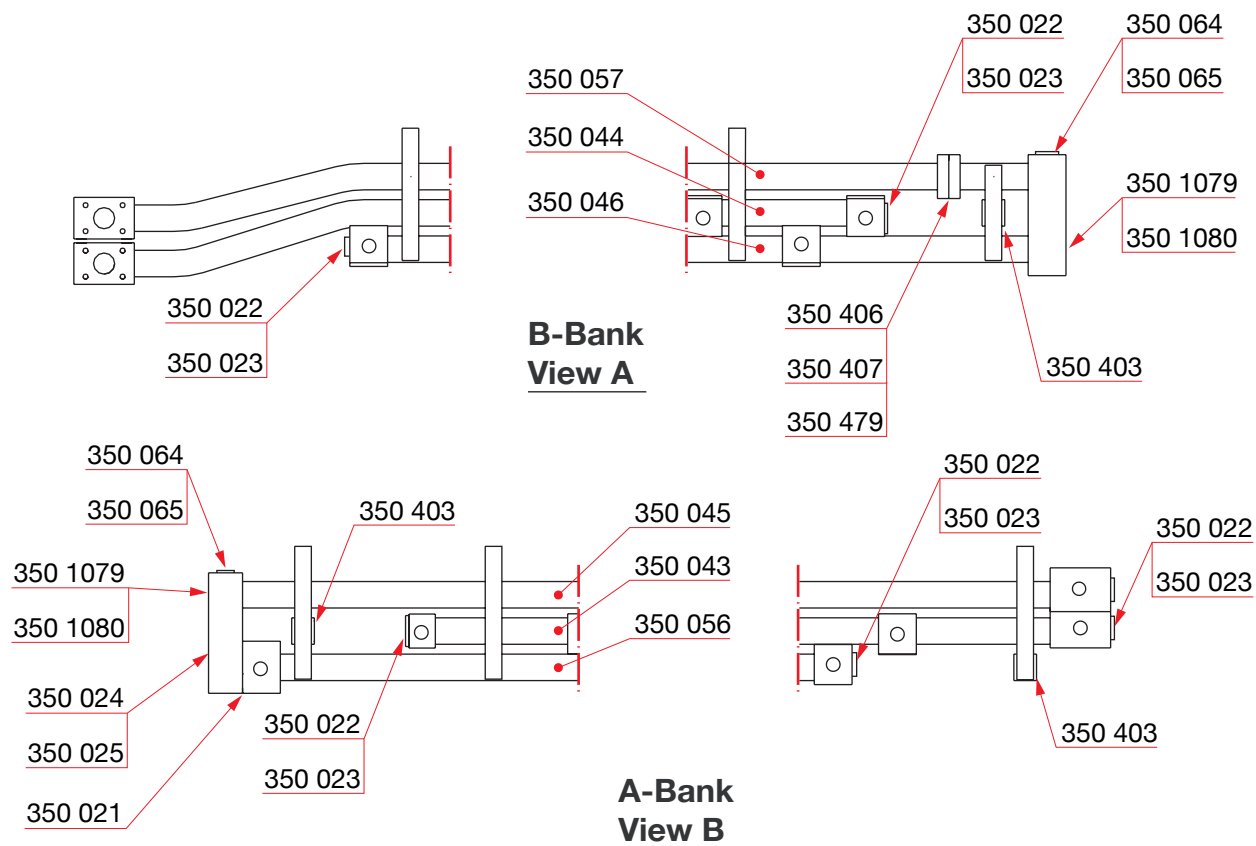


Section C-C

Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 024	Screw	44	-				
350 025	Nut	44	-				
350 060	Pipe clamp	37	-				
350 1072	O-ring	4	-				
350 1075	Clamp	2	-				
350 1076	Pulse damper	4	-				
350 1084	Screw	4	-				

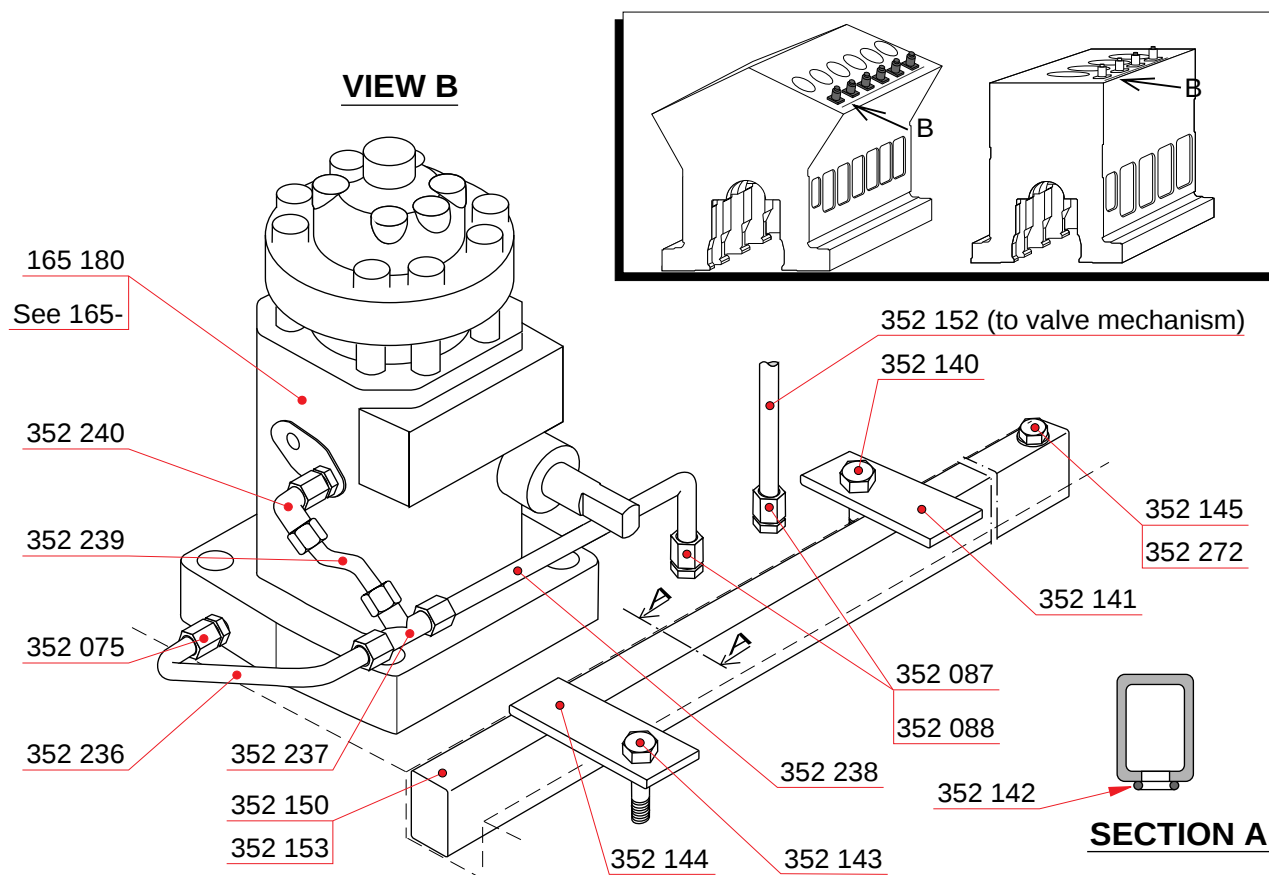
Edition: B
 Page: 4(4)
 Updated: 25.11.2005

Fuel pipes



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 021	O-ring	1	-				
350 022	Plug	8	-				
350 023	Sealing ring	8	-				
350 024	Screw	44	-				
350 025	Nut	44	-				
350 043	Pipe, A bank	1	-				
350 044	Pipe, B bank	1	-				
350 045	Pipe, A bank	1	-				
350 046	Pipe, B bank	1	-				
350 056	Fuel line, A bank	1	-				
350 057	Fuel line, B bank	1	-				
350 064	Plug	2	-				
350 065	Sealing ring	2	-				
350 403	Distance piece	4	-				
350 406	Screw	4	-				
350 407	Nut	4	-				
350 479	O-ring	1	-				
350 1079	Plug	4	-				
350 1080	Sealing ring	4	-				

Lubricating oil pipes to injection pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
165 180	Injection pump	1	35.0	NOTE!	(2) Line engine		
352 075	Pipe union	*	-	NOTE!	* See next page		
352 087	Pipe union	*	-				
352 088	Sealing ring	*	-				
352 140	Screw	*	-				
352 141	Pipe clamp	*	0.1				
352 142	O-ring	*	-				
352 143	Screw	1	-				
352 144	Pipe clamp	1	0.1				
352 145	Screw	1	-				
352 150	Pipe (1)	1	-				
352 152	Pipe	*	-				
352 153	Pipe (2)	1	6.9				
352 236	Pipe	*	-				
352 237	Pipe union	*	0.1				
352 238	Pipe	*	-				
352 239	Pipe	*	-				
352 240	Pipe union	*	-				
352 272	Washer	1	-				

NOTE! (1) B-bank in V-engine

NOTE! (2) A-bank in V-engine

Edition: E

Page: 2(3)

Updated: 13.05.2003

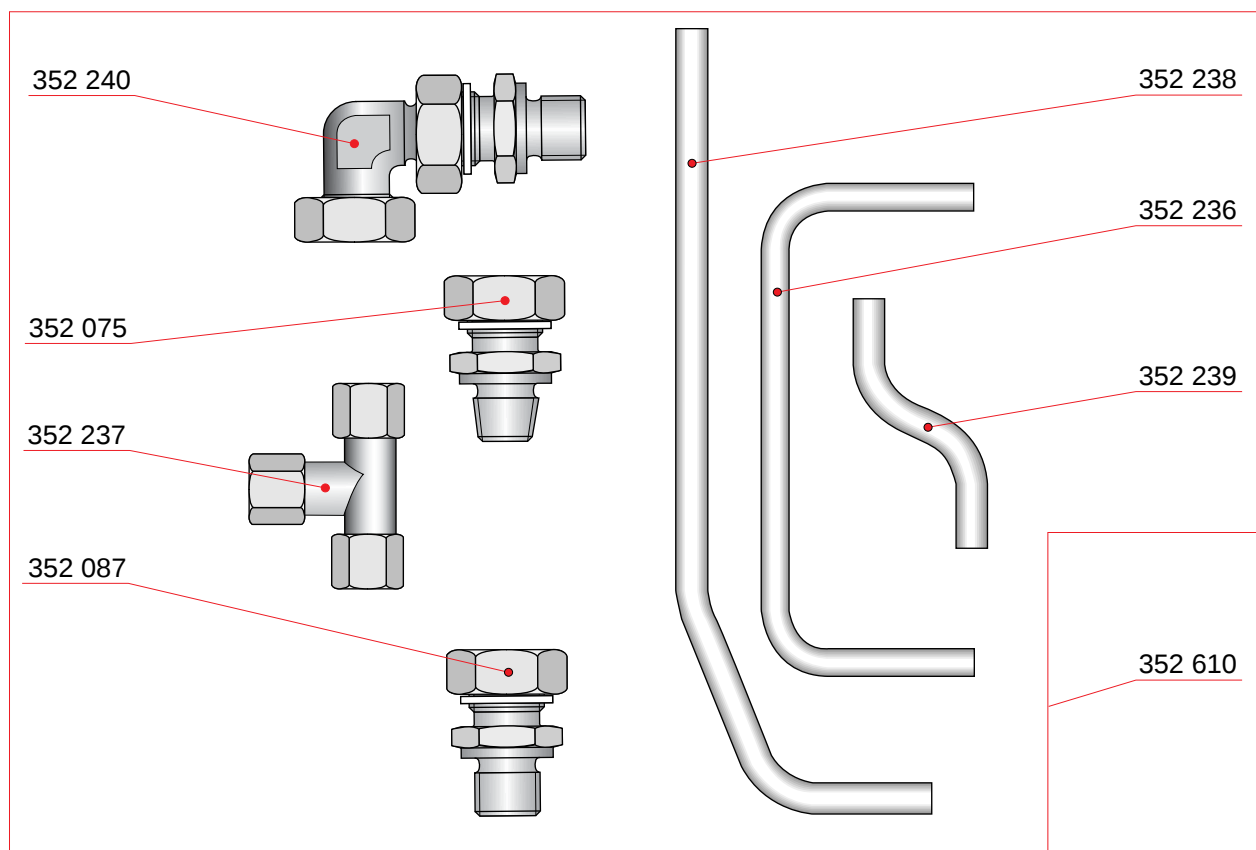
Lubricating oil pipes to injection pump**Quantity according to number of cylinders**

Part No	Pieces						
	4R32	6R32	8R32	9R32	12V32	16V32	18V32
352 075	4	6	8	9	12	16	18
352 087	8	12	16	18	24	32	36
352 088	8	12	16	18	24	32	36
352 140	3	5	7	8	11	15	17
352 141	3	5	7	8	11	15	17
352 142	11	15	19	19	30	38	42
352 152	4	6	8	9	12	16	18
352 236	4	6	8	9	12	16	18
352 237	4	6	8	9	12	16	18
352 238	4	6	8	9	12	16	18
352 239	4	6	8	9	12	16	18
352 240	4	6	8	9	12	16	18

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Lubricating oil pipes to injection pump

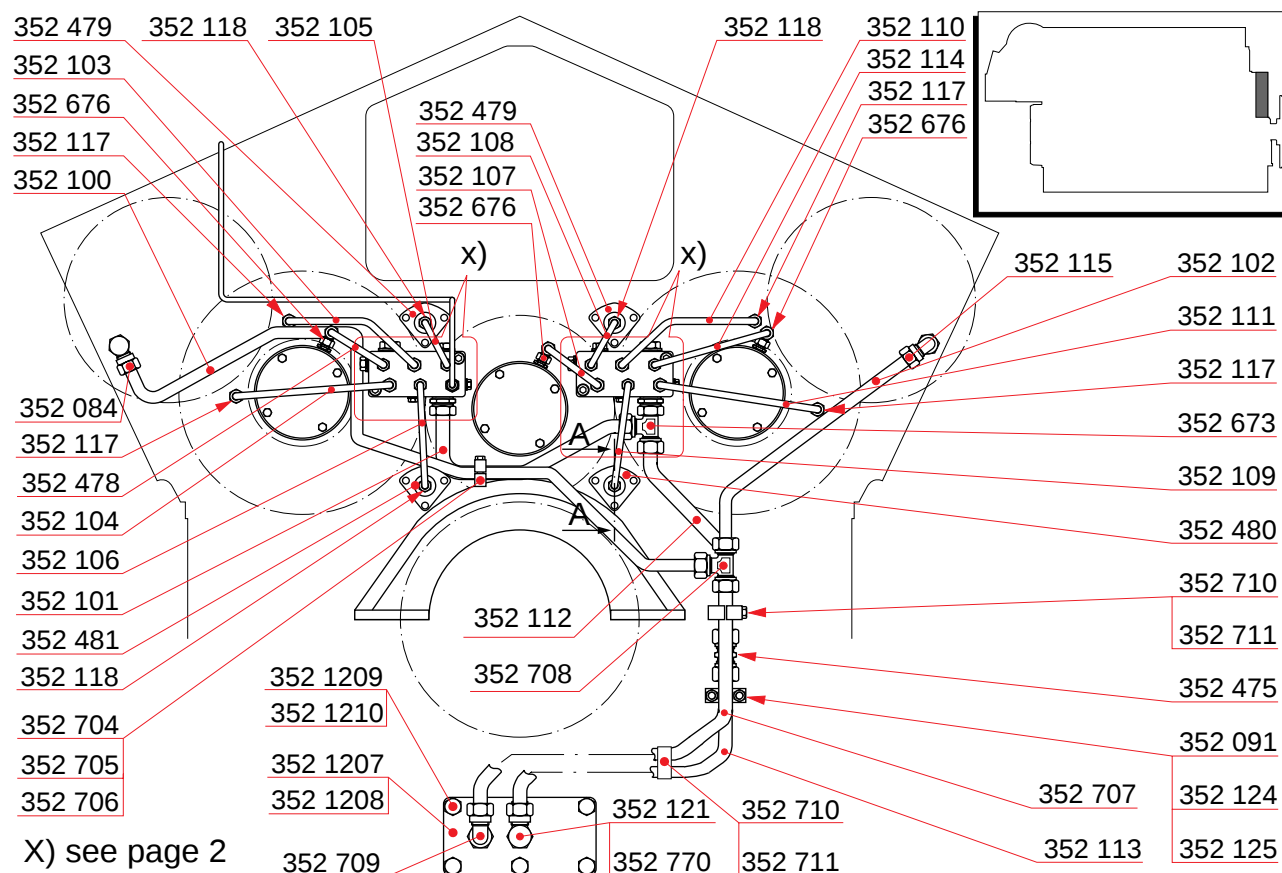


Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 610	Spare part kit	1	0.2
352 075	Pipe union	1	-
352 087	Pipe union	1	-
352 236	Pipe	1	-
352 237	Pipe union	1	0.1
352 238	Pipe	1	-
352 239	Pipe	1	-
352 240	Pipe union	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Lubricating oil pipes to camshaft

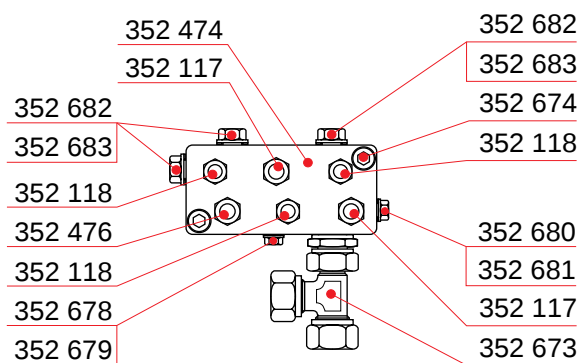
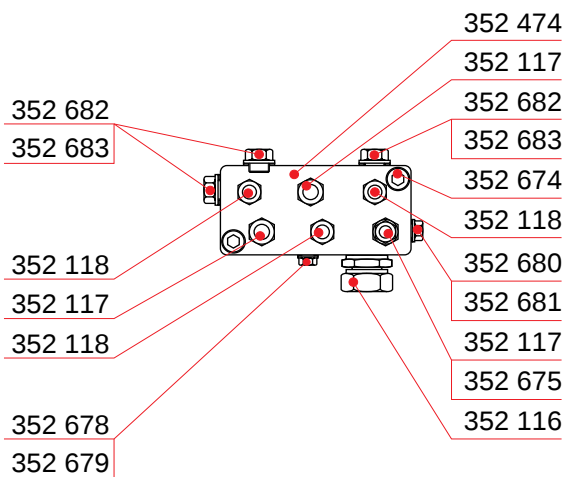
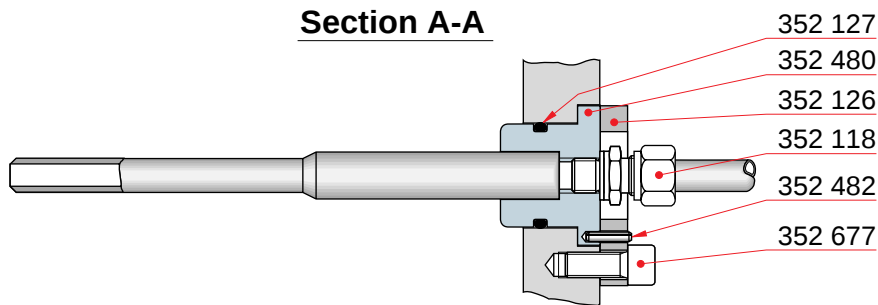


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 084	Pipe union	1	-	352 125	Screw	2	-
352 091	Nut	3	-	352 475	Pipe union	1	-
352 100	Pipe	1	-	352 478	Pipe	1	-
352 101	Pipe	1	-	352 479	Pipe	2	-
352 102	Pipe	1	-	352 480	Pipe	1	-
352 103	Pipe	1	-	352 481	Pipe	1	-
352 104	Pipe	1	-	352 673	Pipe union	1	-
352 105	Pipe	1	-	352 676	Pipe union	3	-
352 106	Pipe	1	-	352 704	Pipe clamp	1	-
352 107	Pipe	1	-	352 705	Screw	1	-
352 108	Pipe	1	-	352 706	Nut	1	-
352 109	Pipe	1	-	352 707	Pipe	1	-
352 110	Pipe	1	-	352 708	Pipe union	1	-
352 111	Pipe	1	-	352 709	Pipe union	1	-
352 112	Pipe	1	-	352 710	Pipe clamp	2	-
352 113	Pipe	1	-	352 711	Screw	2	-
352 114	Pipe	1	-	352 770	Plug	1	-
352 115	Pipe union	1	-	352 1207	Flange	1	-
352 117	Pipe union	9	-	352 1208	O-ring	1	-
352 118	Pipe union	10	-	352 1209	Screw	4	-
352 121	Pipe union	2	-	352 1210	Tab washer	4	-
352 124	Pipe clamp	1	-				

Edition: C
 Page: 2(2)
 Updated: 23.01.2003

Lubricating oil pipes to camshaft

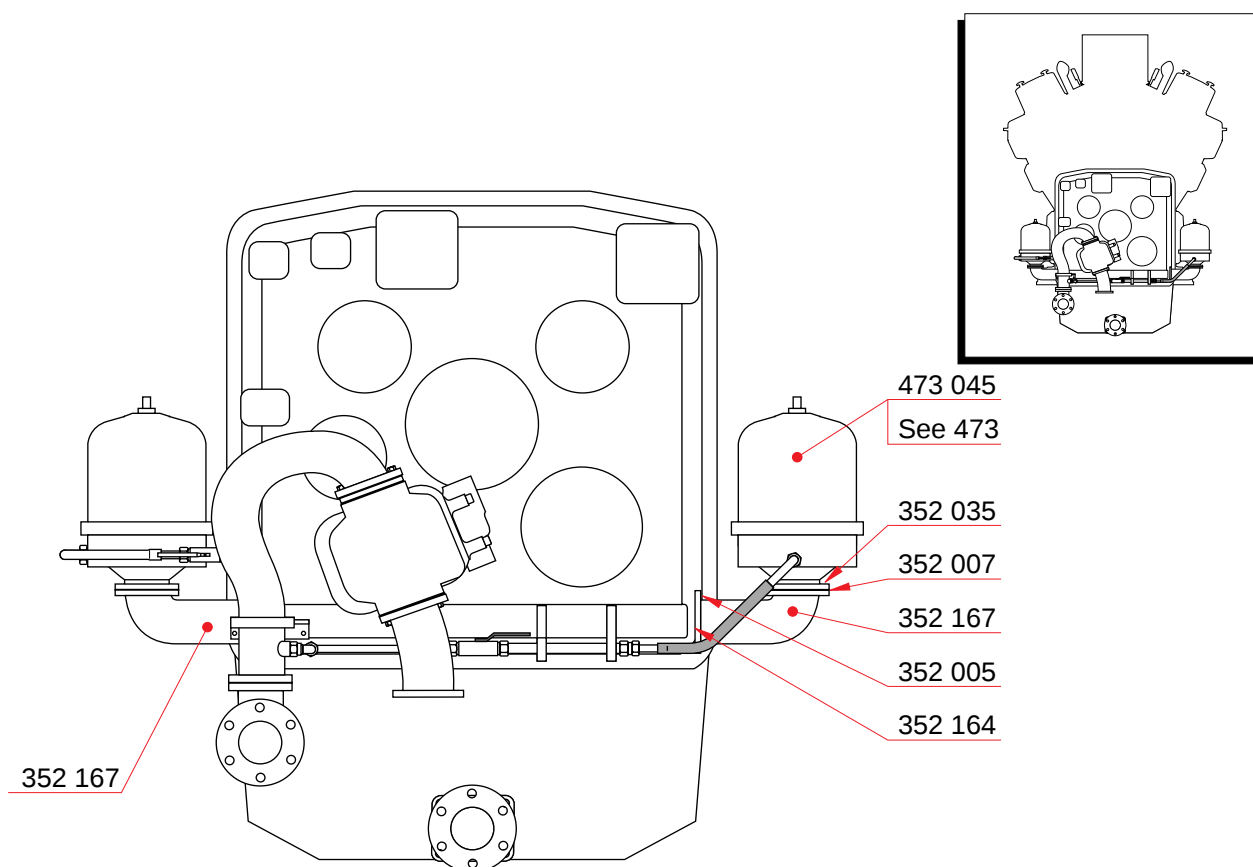
Section A-A



Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 116	Pipe union	1	-
352 117	Pipe union	9	-
352 118	Pipe union	10	-
352 126	Flange	4	-
352 127	O-ring	4	-
352 474	Adapter	2	-
352 476	Pipe union	1	-
352 480	Pipe	1	-
352 482	Spring pin	4	-
352 673	Pipe union	1	-
352 674	Screw	4	-
352 675	Pipe union	1	-
352 677	Screw	12	-
352 678	Plug	2	-
352 679	Gasket	2	-
352 680	Plug	2	-
352 681	Gasket	2	-
352 682	Plug	6	-
352 683	Gasket	6	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

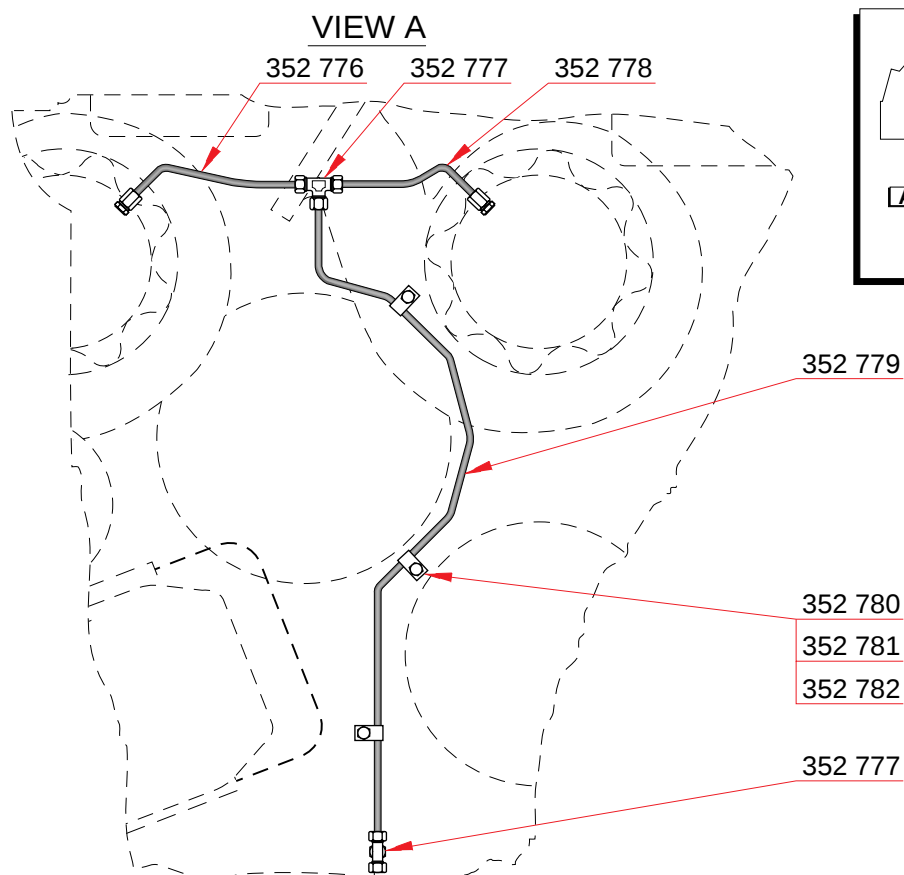
Lubricating oil pipes



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 005	Screw	8	-				
352 007	Gasket	2	-				
352 035	Screw	8	-				
352 164	Gasket	2	-				
352 167	Bend for centrifugal filter	2	6.0				
473 045	Centrifugal filter, compl.	2	25.7				

This page is intentionally left blank.

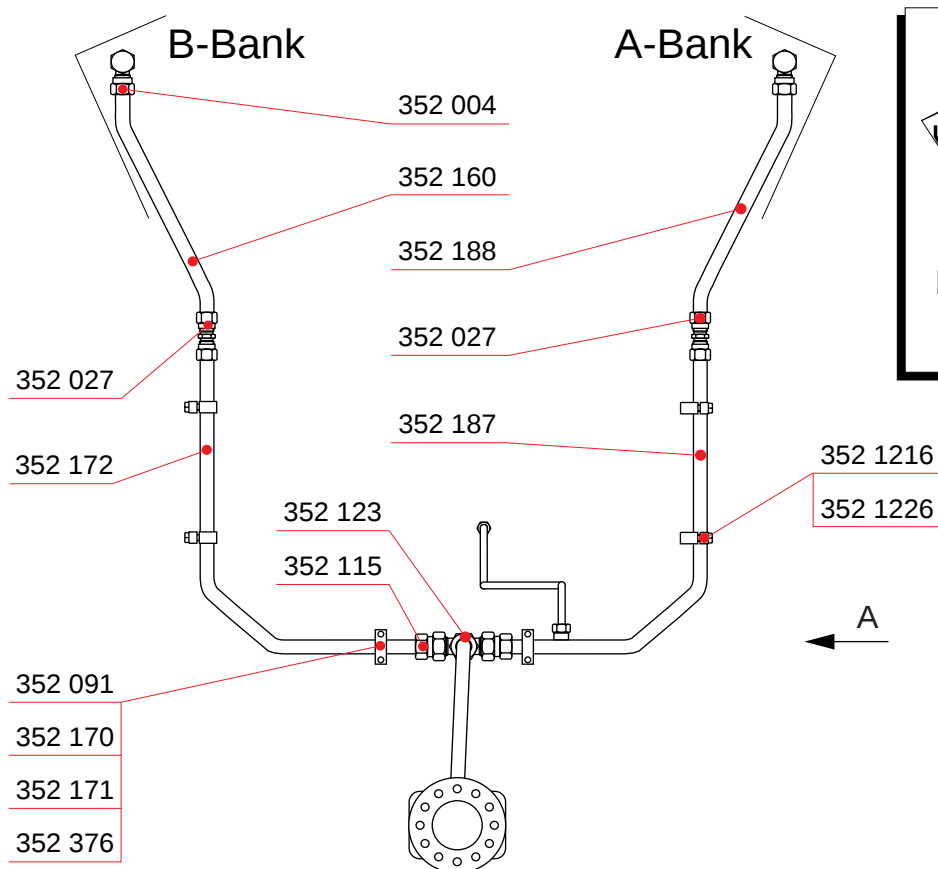
Lube oil pipes for circulation water pumps



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 776	Pipe	1	-				
352 777	Pipe union	2	0.1				
352 778	Pipe	1	-				
352 779	Pipe	1	0.2				
352 780	Pipe clamp	3	-				
352 781	Screw	3	-				
352 782	Securing plate	3	-				

This page is intentionally left blank.

Lubricating oil piping

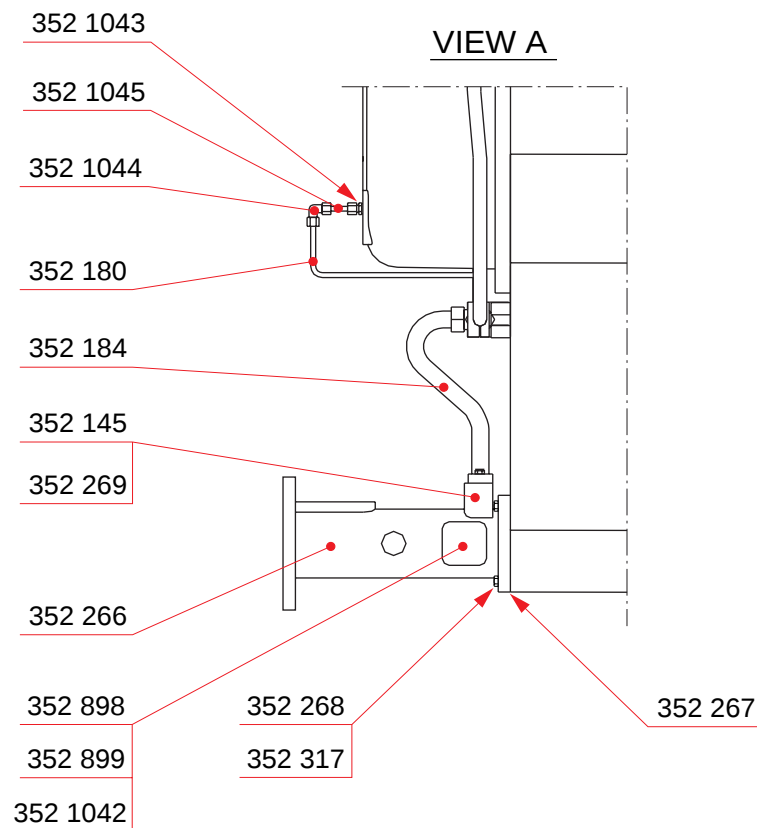


Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 004	Pipe union	2	0.4
352 027	Pipe union	2	0.3
352 091	Nut	4	-
352 115	Pipe union	2	0.3
352 123	Pipe union	1	0.6
352 160	Pipe	1	0.7
352 170	Screw	4	-
352 171	Distance piece	4	-
352 172	Pipe	1	1.3
352 187	Pipe	1	1.3
352 188	Pipe	1	0.7
352 376	Pipe clamp	2	0.2
352 1216	Pipe clamp	4	-
352 1226	Nut	4	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

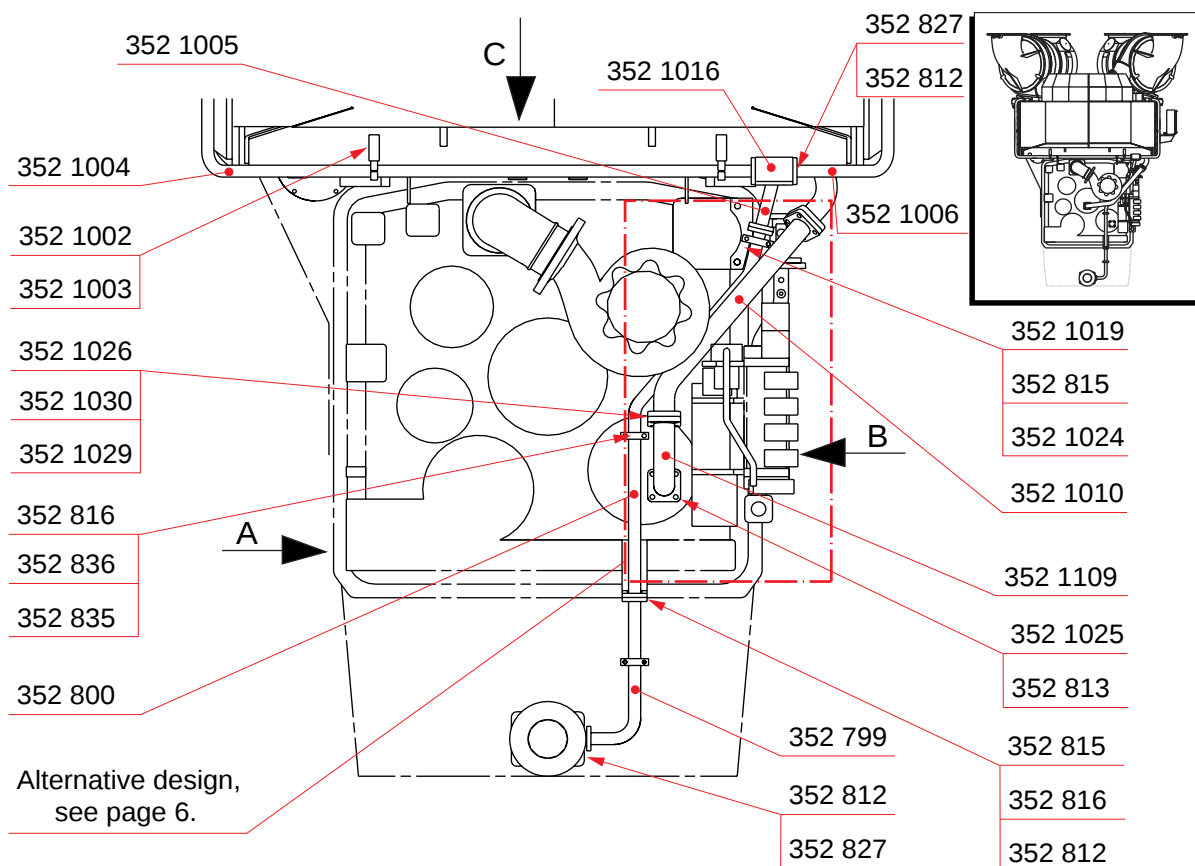
Edition: D
 Page: 2(2)
 Updated: 01.07.2004

Lubricating oil piping



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 145	Screw	1	-				
352 180	Pipe	1	-				
352 184	Pipe	1	0.5				
352 266	Pipe	1	16.0				
352 267	O-ring	2	-				
352 268	Screw	8	-				
352 269	O-ring	1	-				
352 317	Securing plate	8	-				
352 898	Flange	1	0.5				
352 899	Screw	4	-				
352 1042	O-ring	1	-				
352 1043	Pipe union	1	-				
352 1044	Pipe union	1	-				
352 1045	Pipe	1	-				

Lubricating oil system for turbocharger

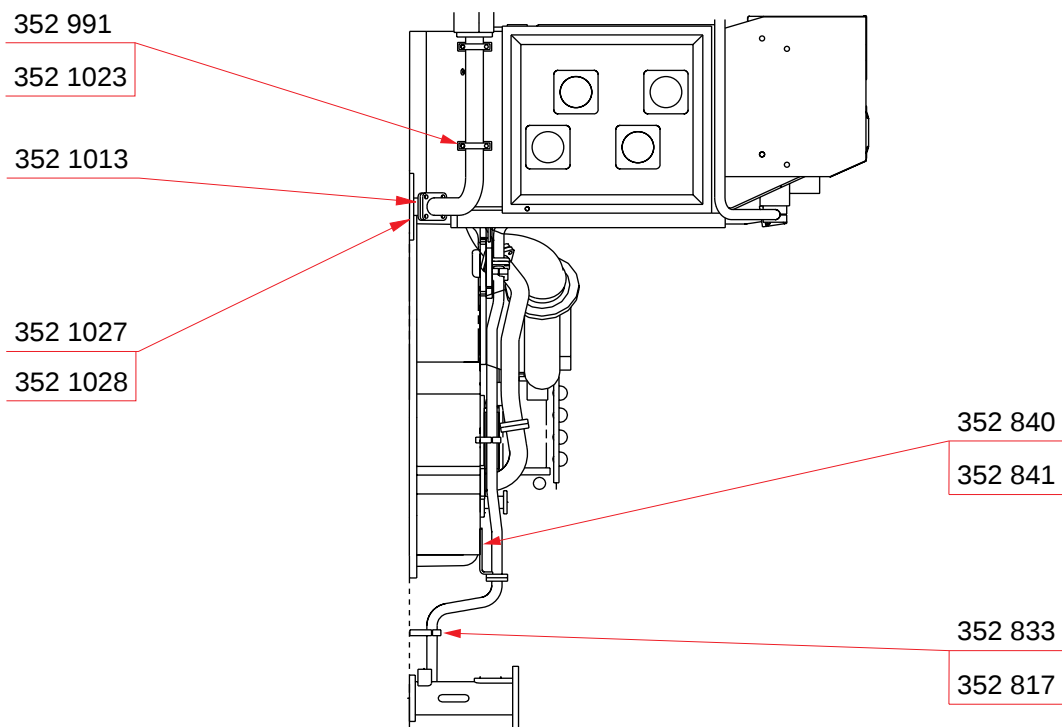


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 799	Pipe	1	2.2	352 1109	Pipe	1	-
352 800	Pipe	1	3.5				
352 812	O-ring	6	-				
352 813	O-ring	1	-				
352 815	Screw	10	-				
352 816	Nut	9	-				
352 827	Screw	16	-				
352 835	Pipe clamp	1	0.7				
352 836	Screw	2	-				
352 1002	Pipe clamp	3	0.4				
352 1003	Screw	6	-				
352 1004	Pipe	1	-				
352 1005	Pipe	1	3.3				
352 1006	Pipe	1	-				
352 1010	Pipe	1	-				
352 1016	Connection piece	1	-				
352 1019	Pipe clamp	1	2.0				
352 1024	Screw	2	0.1				
352 1025	Screw	8	-				
352 1026	O-ring	7	-				
352 1029	Screw	16	-				
352 1030	Nut	16	-				

Edition: C

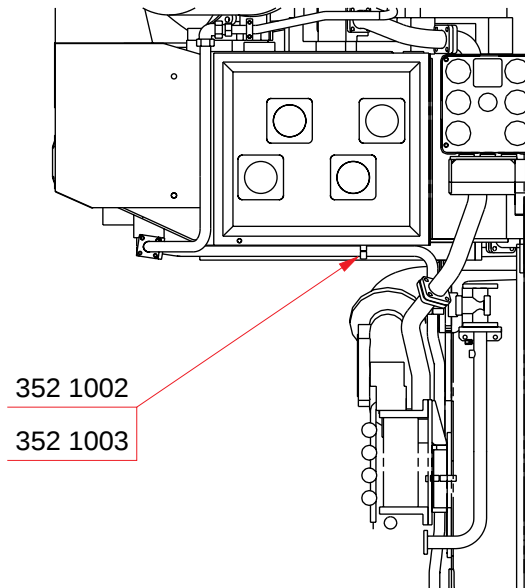
Page: 2(6)

Updated: 27.11.2001

Lubricating oil system for turbocharger**VIEW A**

Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 817	Screw	2	-				
352 833	Pipe clamp	1	0.5				
352 840	Bracket	1	-				
352 841	Screw	2	-				
352 991	Pipe clamp	3	0.9				
352 1013	Pipe	1	5.0				
352 1023	Screw	6	0.1				
352 1027	Screw	6	-				
352 1028	O-ring	1	-				

Lubricating oil system for turbocharger

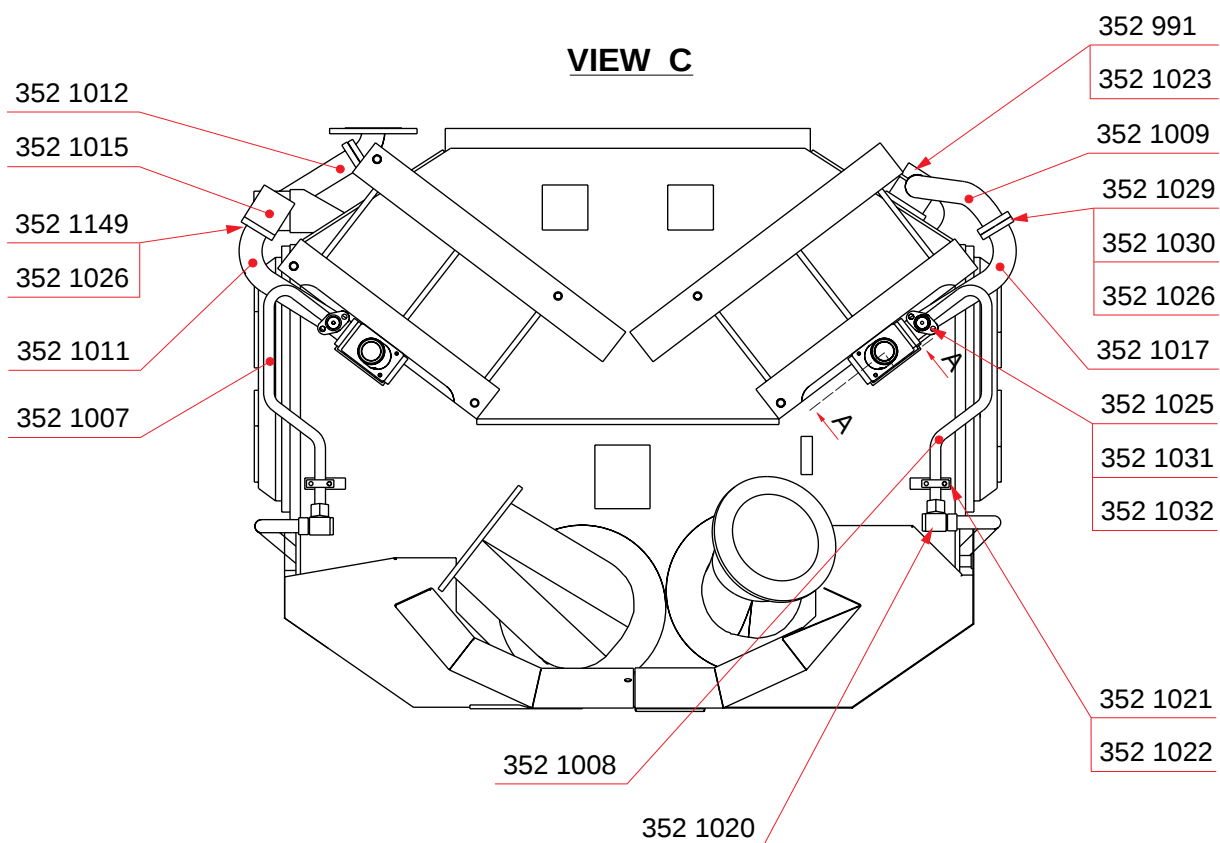


VIEW B

Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 1002	Pipe clamp	3	0.4				
352 1003	Screw	6	-				

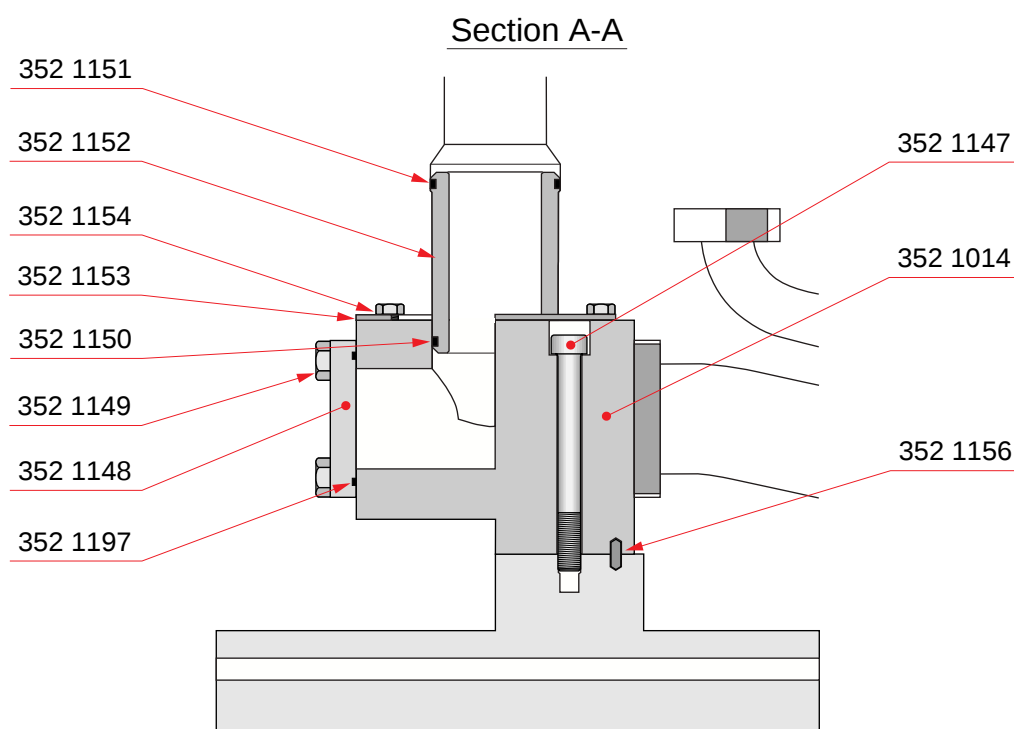
Edition: C
 Page: 4(6)
 Updated: 27.11.2001

Lubricating oil system for turbocharger



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 991	Pipe clamp	3	0.9				
352 1007	Pipe	1	2.6				
352 1008	Pipe	1	2.6				
352 1009	Pipe	1	-				
352 1011	Pipe	1	-				
352 1012	Pipe	1	-				
352 1015	Connection piece	1	6.6				
352 1017	Pipe	1	-				
352 1020	Pipe union	2	0.8				
352 1021	Pipe clamp	2	0.4				
352 1022	Screw	4	-				
352 1023	Screw	6	0.1				
352 1025	Screw	8	-				
352 1026	O-ring	7	-				
352 1029	Screw	16	-				
352 1030	Nut	16	-				
352 1031	O-ring	2	-				
352 1032	Throttle ring	2	-				
352 1149	Screw	24	-				

Lubricating oil system for turbocharger

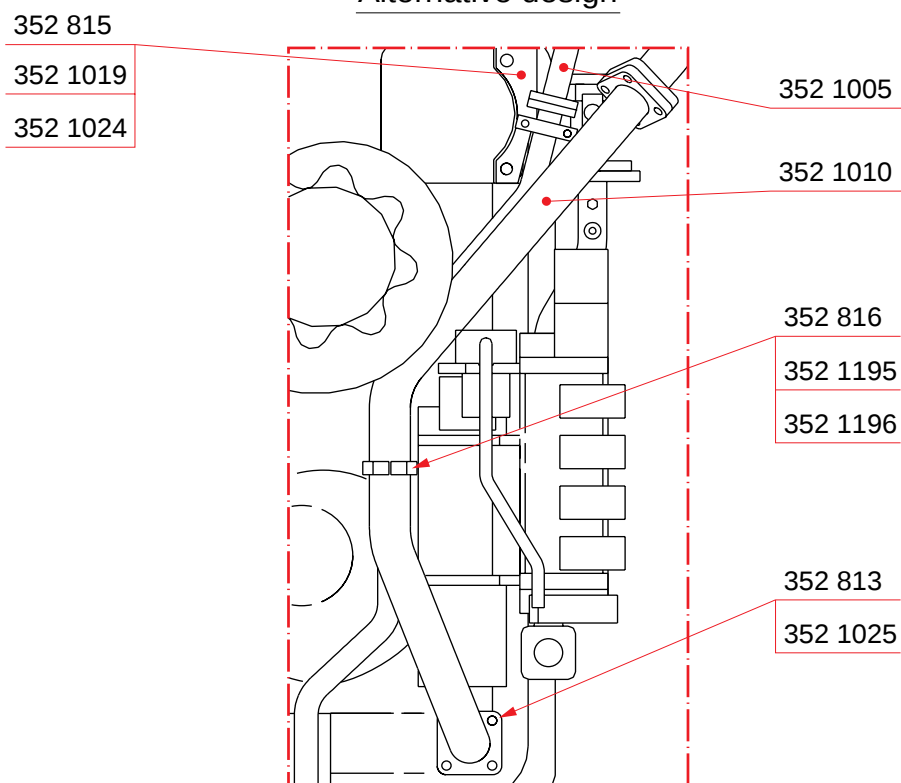


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 1014	Connection piece	2	-				
352 1147	Screw	4	0.1				
352 1148	Flange	2	-				
352 1149	Screw	24	-				
352 1150	O-ring	2	-				
352 1151	O-ring	2	-				
352 1152	Pipe	2	-				
352 1153	Fixing plate	2	0.3				
352 1154	Screw	4	-				
352 1156	Spring pin	4	-				
352 1197	O-ring	4	-				

Edition: C
 Page: 6(6)
 Updated: 27.11.2001

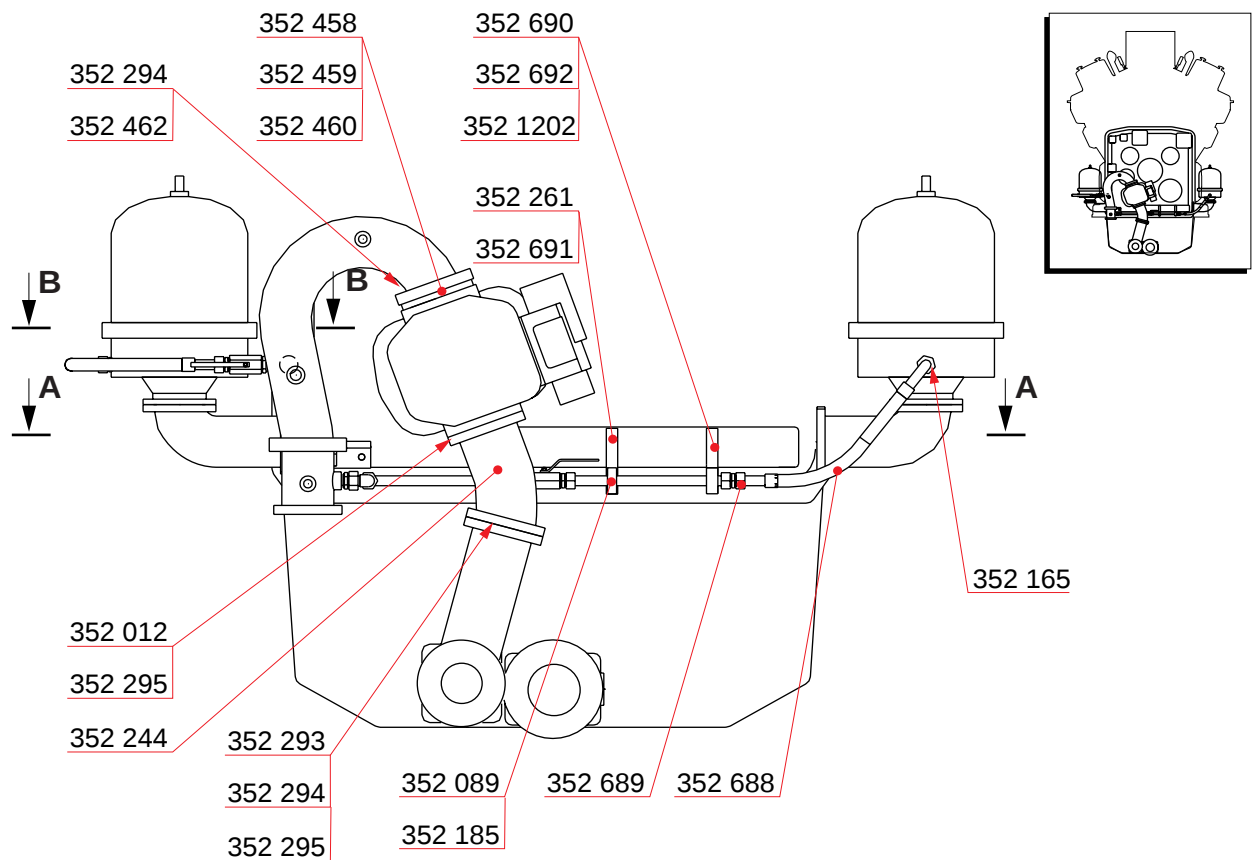
Lubricating oil system for turbocharger

Alternative design



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 813	O-ring	1	-				
352 815	Screw	10	-				
352 816	Nut	9	-				
352 1005	Pipe	1	3.3				
352 1010	Pipe	1	-				
352 1019	Pipe clamp	1	2.0				
352 1024	Screw	2	0.1				
352 1025	Screw	8	-				
352 1195	Pipe clamp	1	-				
352 1196	Screw	1	-				

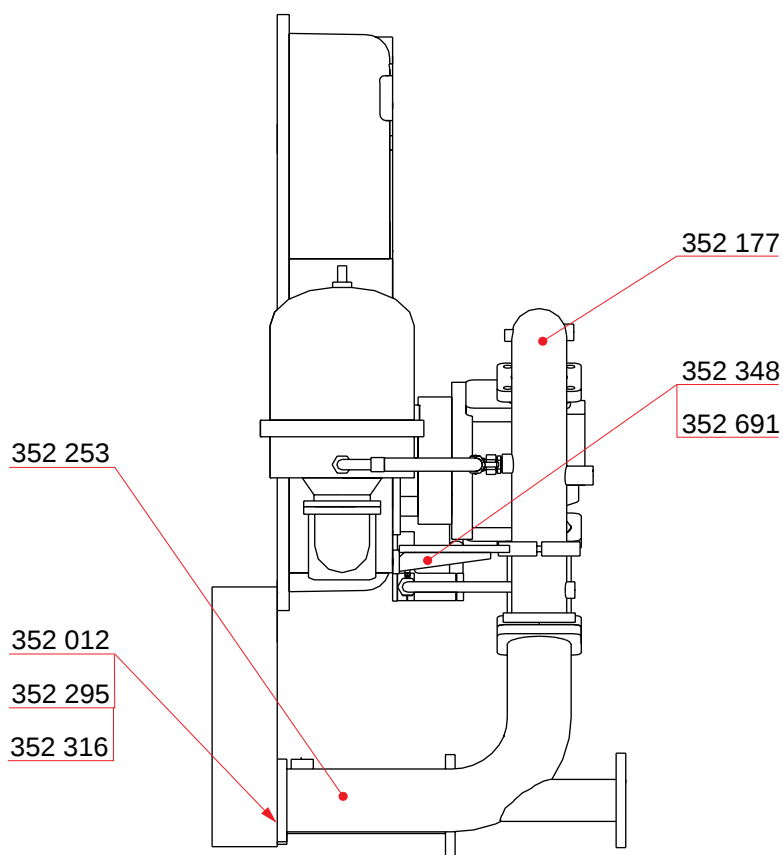
Lubricating oil system



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 012	Screw	8	-				
352 089	Pipe clamp	1	0.2				
352 165	Pipe union	5	0.2				
352 185	Screw	2	-				
352 244	Pipe	1	7.8				
352 261	Support	1	0.3				
352 293	Screw	4	0.1				
352 294	Nut	8	-				
352 295	O-ring	3	-				
352 458	Non-return valve	1	2.0				
352 459	O-ring	1	-				
352 460	O-ring	2	-				
352 462	Screw	4	0.1				
352 688	Pipe/hose	2	0.4				
352 689	Pipe union	1	0.3				
352 690	Pipe clamp	1	2.1				
352 691	Screw	4	-				
352 692	Screw	2	-				
352 1202	Screw	2	-				

Edition: A
 Page: 2(4)
 Updated: 09.10.2002

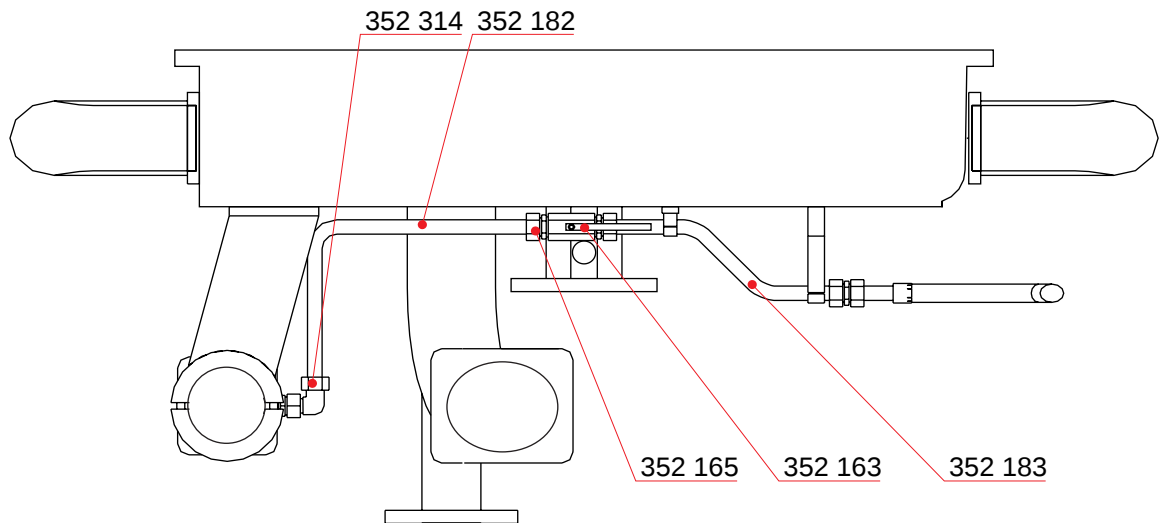
Lubricating oil system



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 012	Screw	8	-				
352 177	Pipe	1	15.0				
352 253	Pipe	1	19.0				
352 295	O-ring	3	-				
352 316	Securing plate	4	-				
352 348	Bracket	1	7.2				
352 691	Screw	4	-				

Lubricating oil system

Section A-A



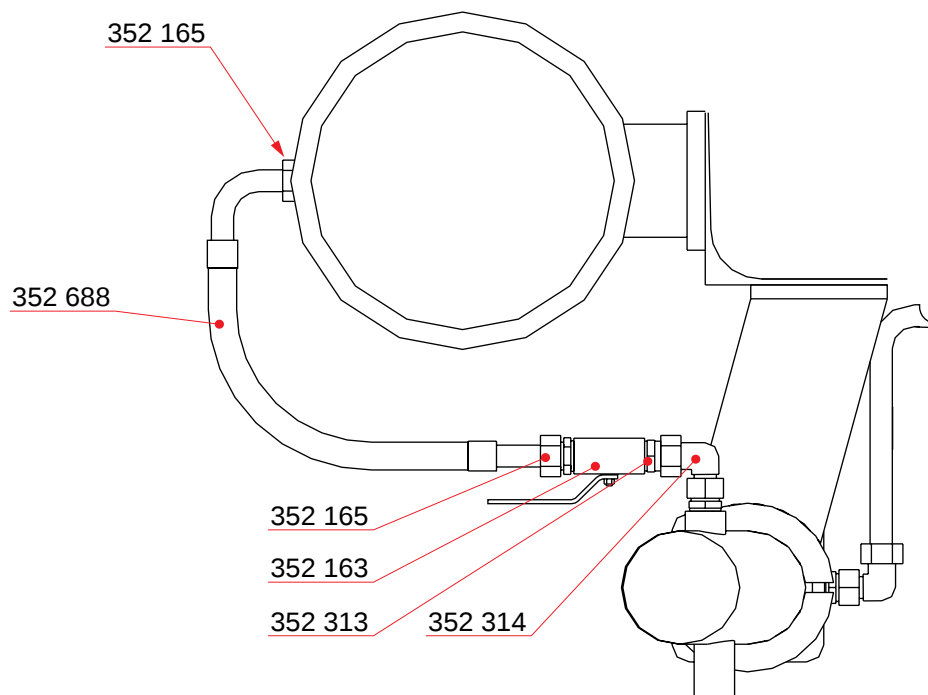
Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 163	Valve	2	0.3
352 165	Pipe union	5	0.2
352 182	Pipe	1	0.6
352 183	Pipe	1	0.4
352 314	Pipe union	2	0.4

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Edition: A
 Page: 4(4)
 Updated: 09.10.2002

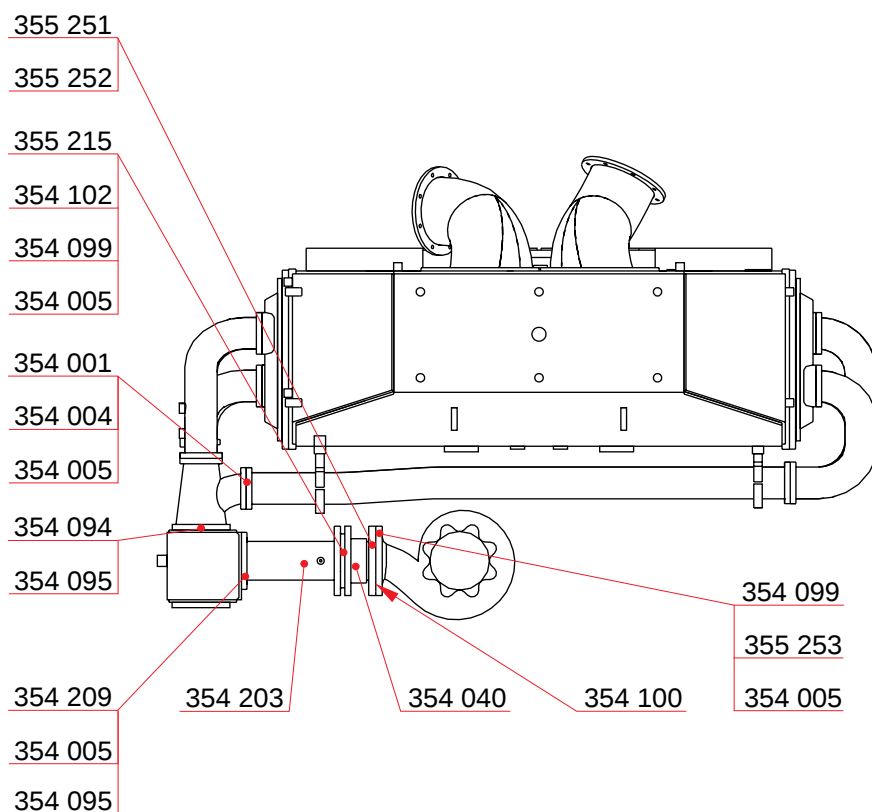
Lubricating oil system

Section B-B



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 163	Valve	2	0.3				
352 165	Pipe union	5	0.2				
352 313	Pipe union	1	0.2				
352 314	Pipe union	2	0.4				
352 688	Pipe/hose	2	0.4				

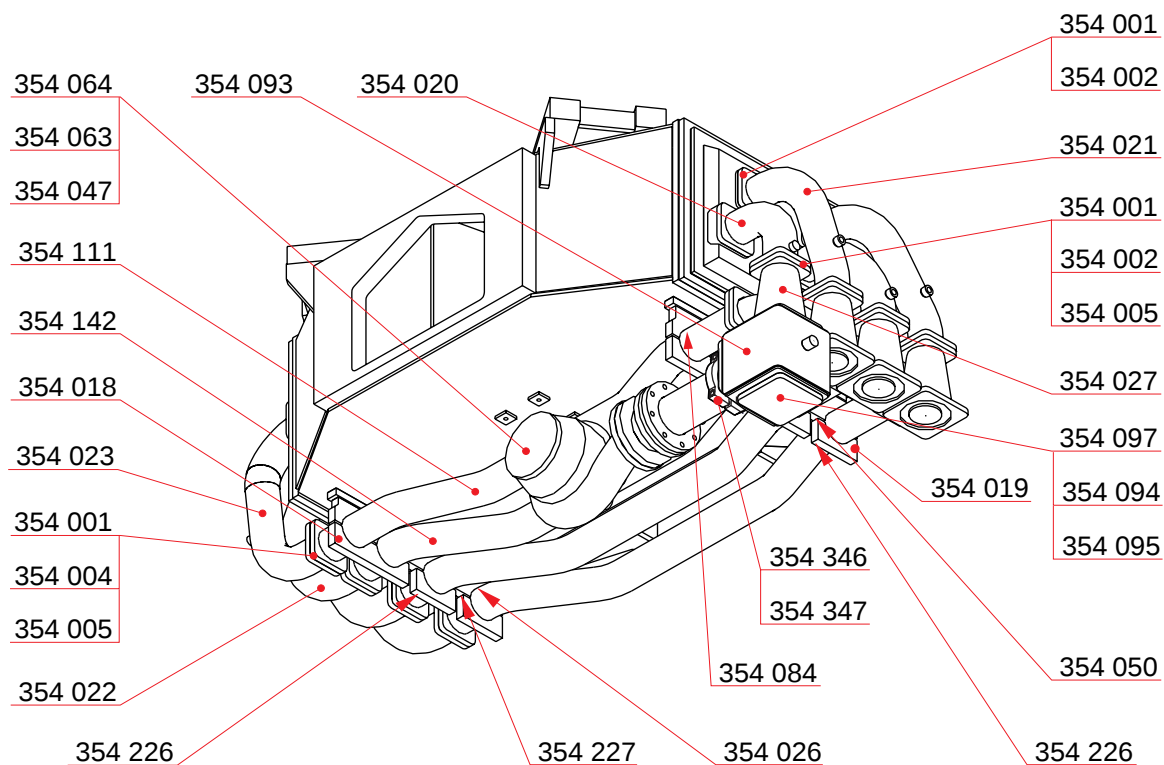
LT water system



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
354 001	Gasket	10	-				
354 004	Screw	8	0.1				
354 005	Nut	28	-				
354 040	Pipe	1	9.0				
354 094	Screw	8	-				
354 095	Gasket	3	-				
354 099	Screw	16	0.1				
354 100	Gasket	1	-				
354 102	Gasket	2	-				
354 203	Pipe	1	-				
354 209	Screw	4	-				
355 215	Non-return valve	1	3.2				
355 251	Flange	1	5.1				
355 252	O-ring	2	-				
355 253	Washer	8	-				

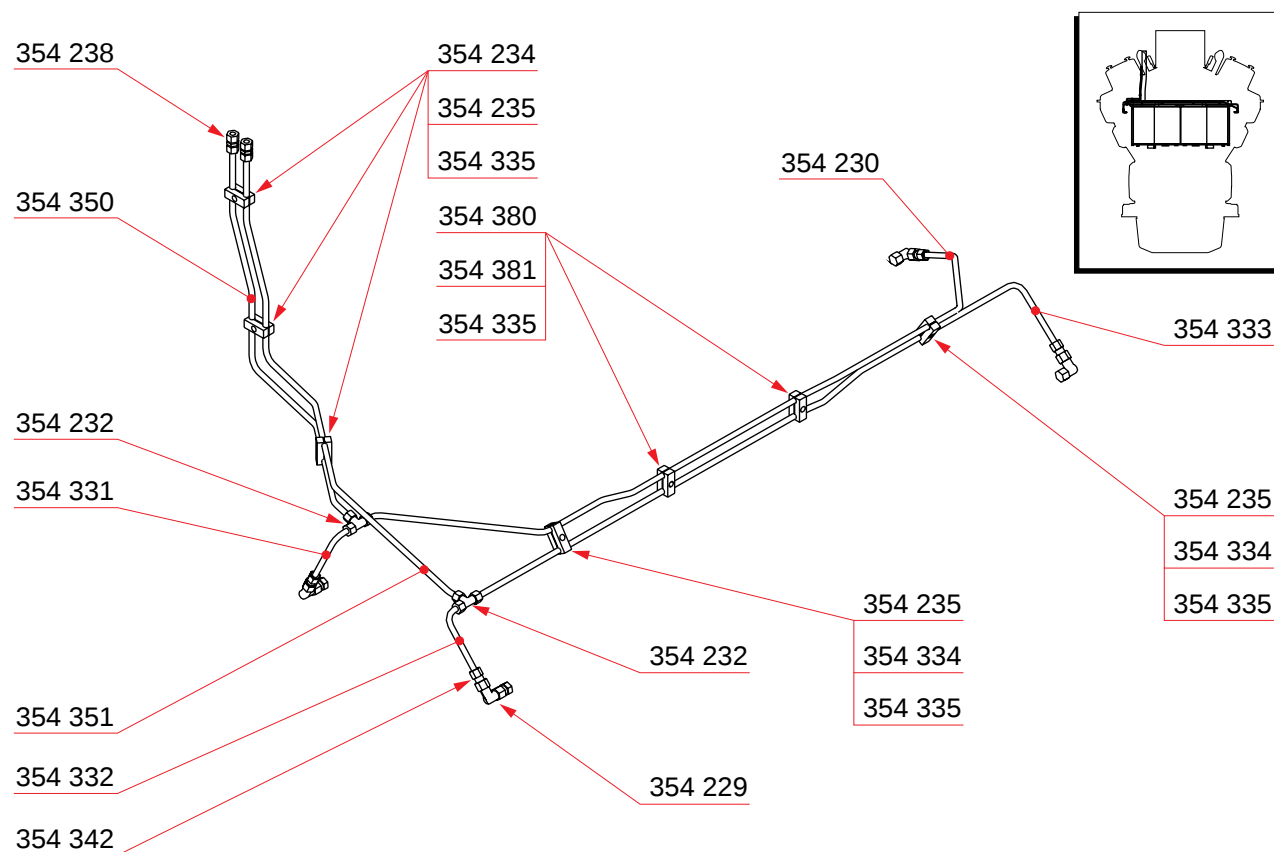
Edition: C
 Page: 2(2)
 Updated: 11.06.2004

LT water system



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
354 001	Gasket	10	-	354 142	Pipe	1	-
354 002	Screw	32	-	354 226	Screw	15	0.1
354 004	Screw	8	0.1	354 227	Screw	2	0.1
354 005	Nut	28	-	354 346	Pipe clamp	1	4.7
354 018	Pipe clamp	1	-	354 347	Screw	4	0.2
354 019	Pipe clamp	1	-				
354 020	Pipe	1	-				
354 021	Pipe	1	0.8				
354 022	Pipe	1	-				
354 023	Pipe	1	-				
354 026	Screw	3	-				
354 027	Pipe	2	14.1				
354 047	Guiding screw	1	-				
354 050	Screw	3	0.1				
354 063	Screw	8	-				
354 064	Gasket	1	-				
354 084	Screw	2	-				
354 093	Box	1	24.0				
354 094	Screw	8	-				
354 095	Gasket	3	-				
354 097	Flange	1	6.1				
354 111	Pipe	1	-				

Air vent pipes from air cooler

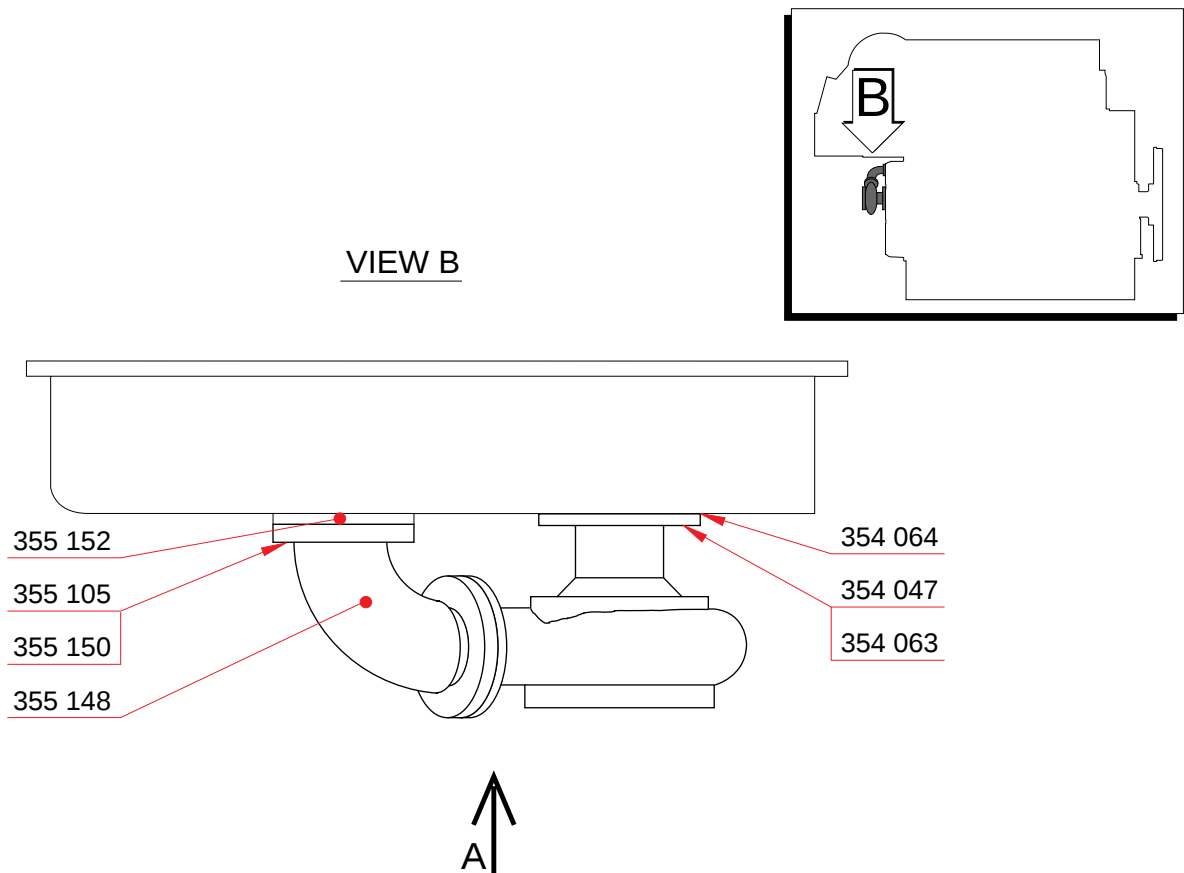


Part No.	Description	Qty [Pcs]	Wt. [Kg]
354 229	Connection piece	4	0.3
354 230	Pipe	1	-
354 232	Pipe union	2	0.1
354 234	Pipe clamp	3	0.2
354 235	Screw	5	-
354 238	Pipe union	2	-
354 331	Pipe	1	-
354 332	Pipe	1	0.4
354 333	Pipe	1	0.5
354 334	Pipe clamp	2	-
354 335	Washer	7	-
354 342	Reduction union	4	0.1
354 350	Pipe	1	-
354 351	Pipe	1	-
354 380	Clamp	2	0.2
354 381	Screw	2	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

HT-water pipes

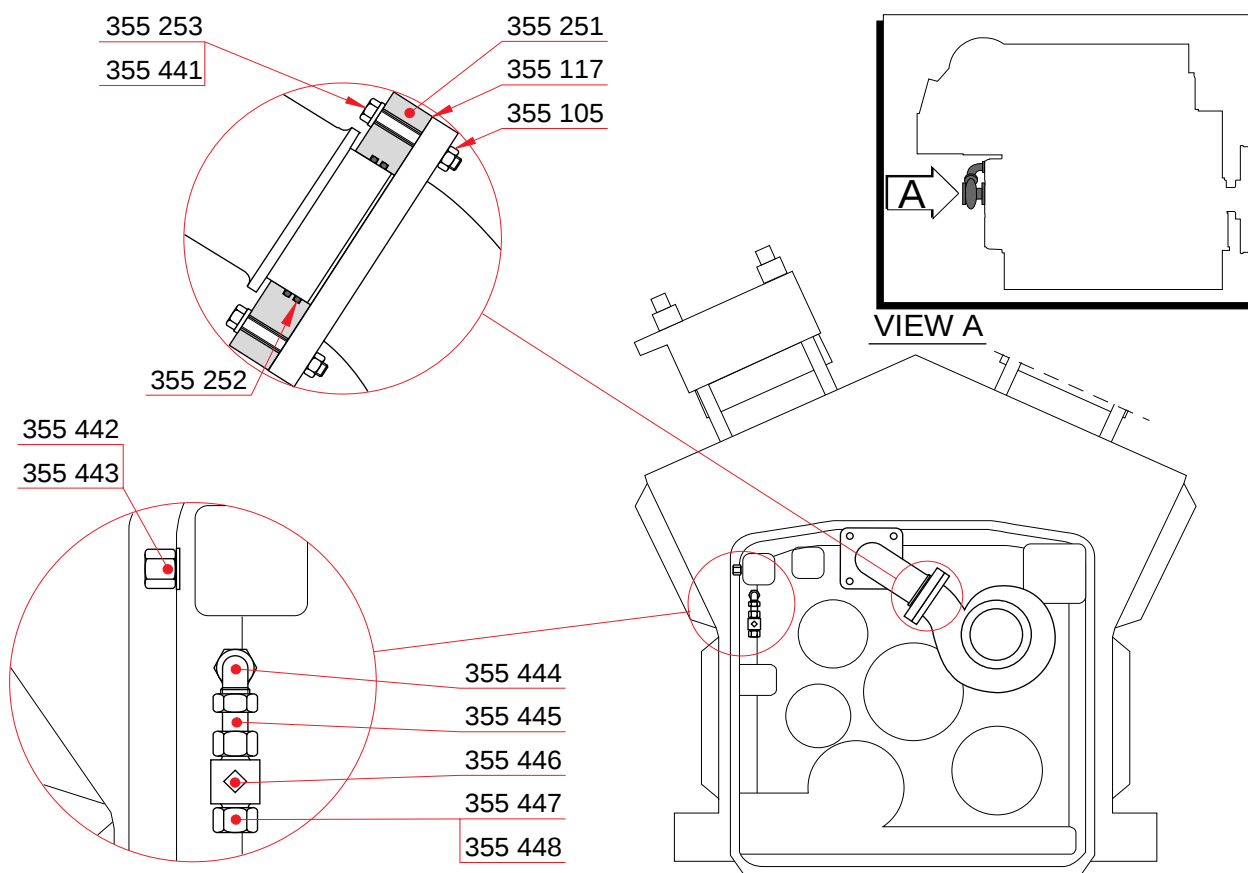


Part No.	Description	Qty [Pcs]	Wt. [Kg]
354 047	Guiding screw	1	-
354 063	Screw	8	-
354 064	Gasket	1	-
355 105	Nut	12	-
355 148	Bend from water pump	1	11.0
355 150	Screw	4	0.1
355 152	Non-return valve	1	3.9

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Edition: A
 Page: 2(2)
 Updated: 26.10.1993

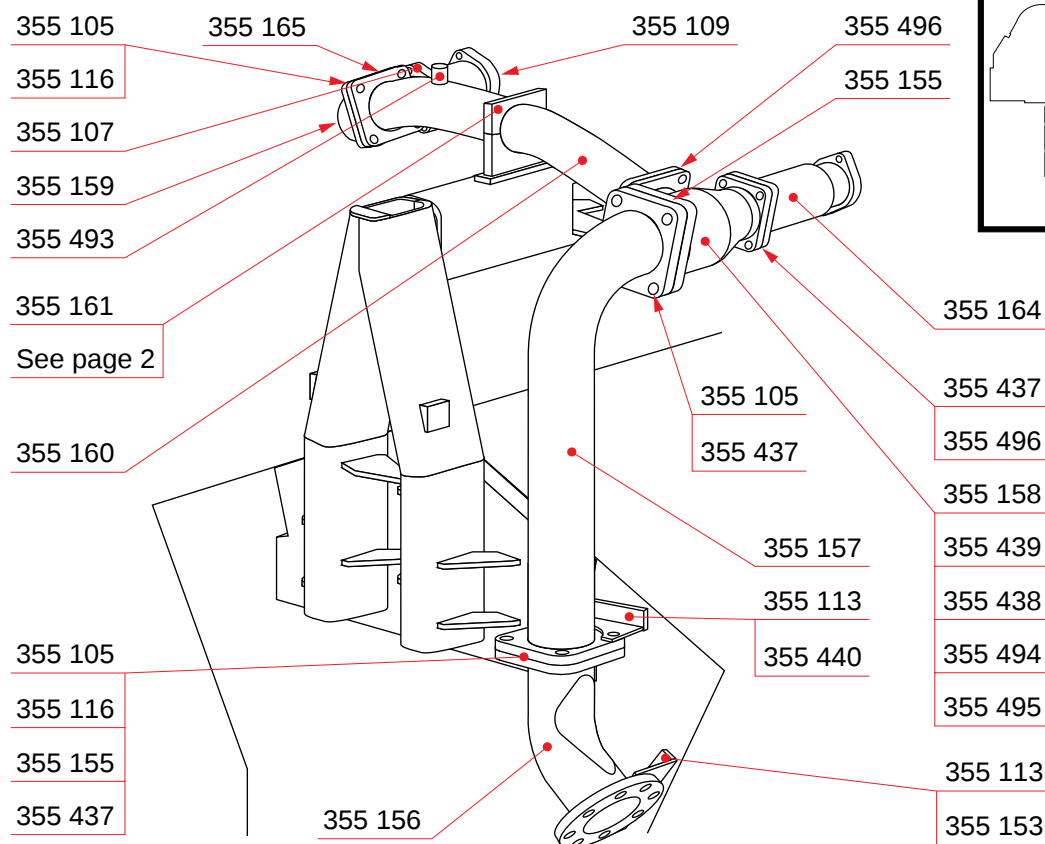
HT-water pipes



Part No.	Description	Qty [Pcs]	Wt. [Kg]
355 105	Nut	12	-
355 117	Gasket	1	-
355 251	Flange	1	5.1
355 252	O-ring	2	-
355 253	Washer	8	-
355 441	Screw	8	0.1
355 442	Extension piece	1	-
355 443	Sealing ring	1	-
355 444	Pipe union	1	-
355 445	Pipe	1	-
355 446	Valve	1	-
355 447	Cutting ring	2	-
355 448	Union nut	2	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

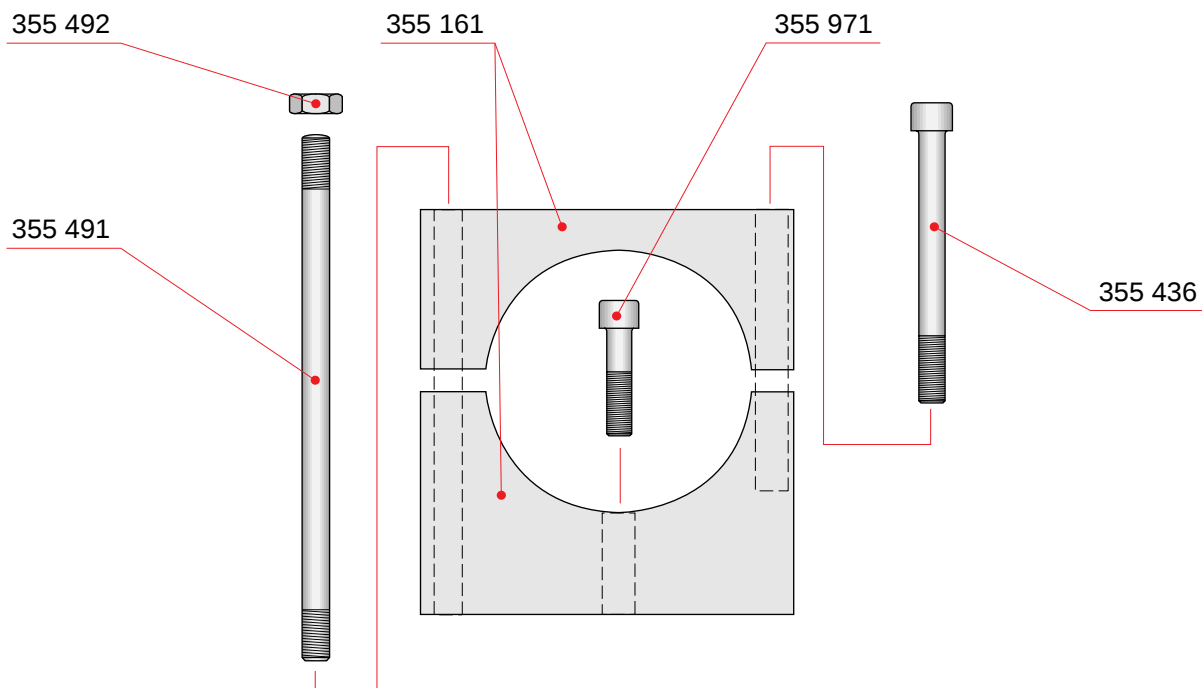
Outlet pipes for HT-water



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
355 105	Nut	20	-	355 496	Screw	8	-
355 107	Screw	4	-				
355 109	O-ring	2	-				
355 113	Screw	4	-				
355 116	Screw	14	0.1				
355 153	Pipe clamp	1	2.5				
355 155	Gasket	2	-				
355 156	Pipe	1	6.0				
355 157	Pipe	1	25.0				
355 158	Connection piece	1	13.0				
355 159	Pipe	1	8.0				
355 160	Pipe	1	11.6				
355 161	Pipe clamp	1	-				
355 164	Pipe	1	4.8				
355 165	Gasket	3	-				
355 437	Screw	6	0.1				
355 438	Plug	1	-				
355 439	Sealing ring	1	-				
355 440	Bracket	1	2.7				
355 493	Pipe union	1	-				
355 494	Plug	1	-				
355 495	Gasket	1	-				

Edition: D
Page: 2(2)
Updated: 11.06.2004

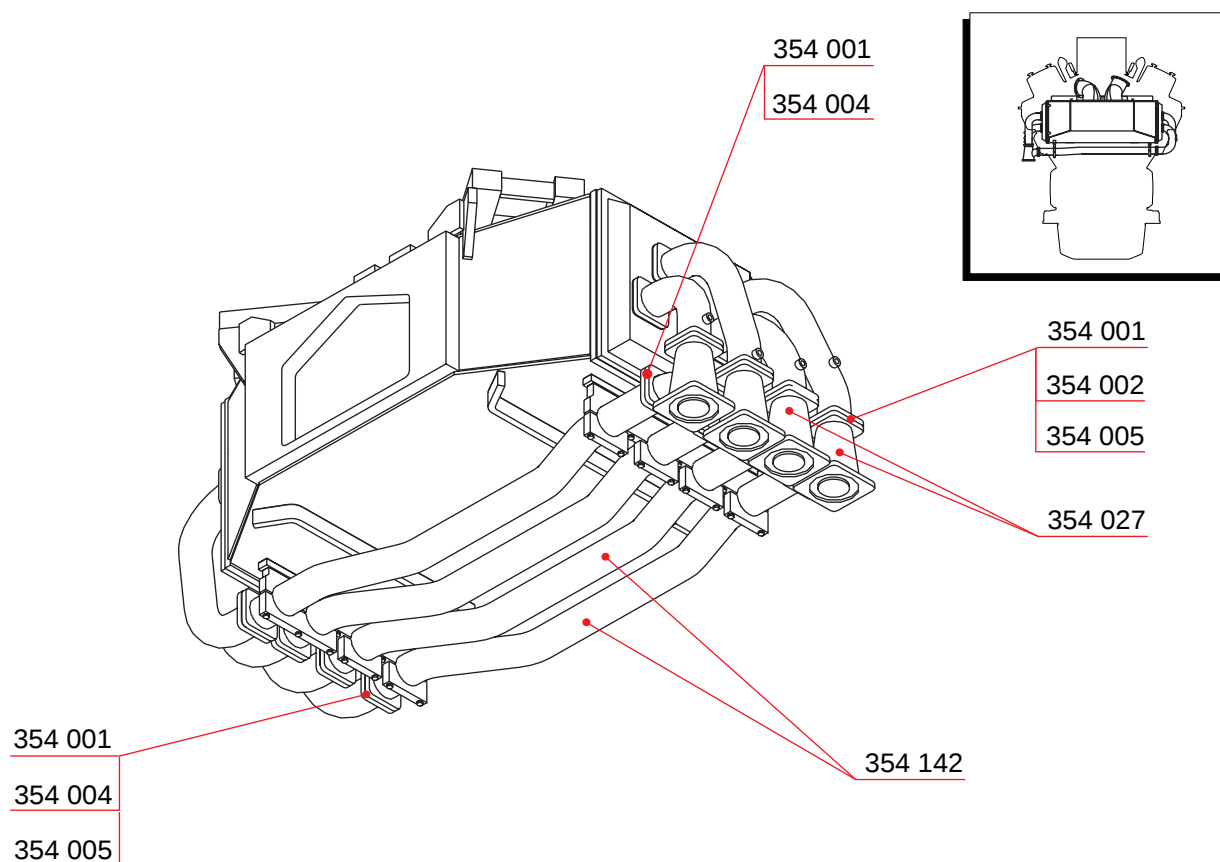
Outlet pipes for HT-water



Part No.	Description	Qty [Pcs]	Wt. [Kg]
355 161	Pipe clamp	1	-
355 436	Screw	1	0.1
355 491	Screw	1	0.2
355 492	Nut	1	-
355 971	Screw	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

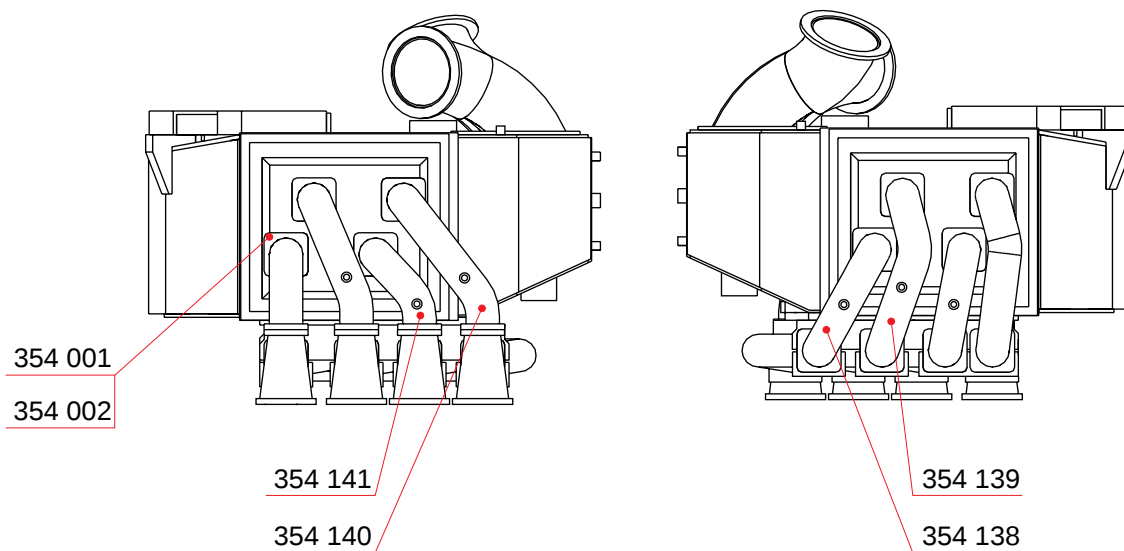
HT water system



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
354 001	Gasket	10	-				
354 002	Screw	32	-				
354 004	Screw	24	-				
354 005	Nut	36	-				
354 027	Pipe	2	-				
354 142	Pipe	2	-				

Edition: D
 Page: 2(2)
 Updated: 28.09.2002

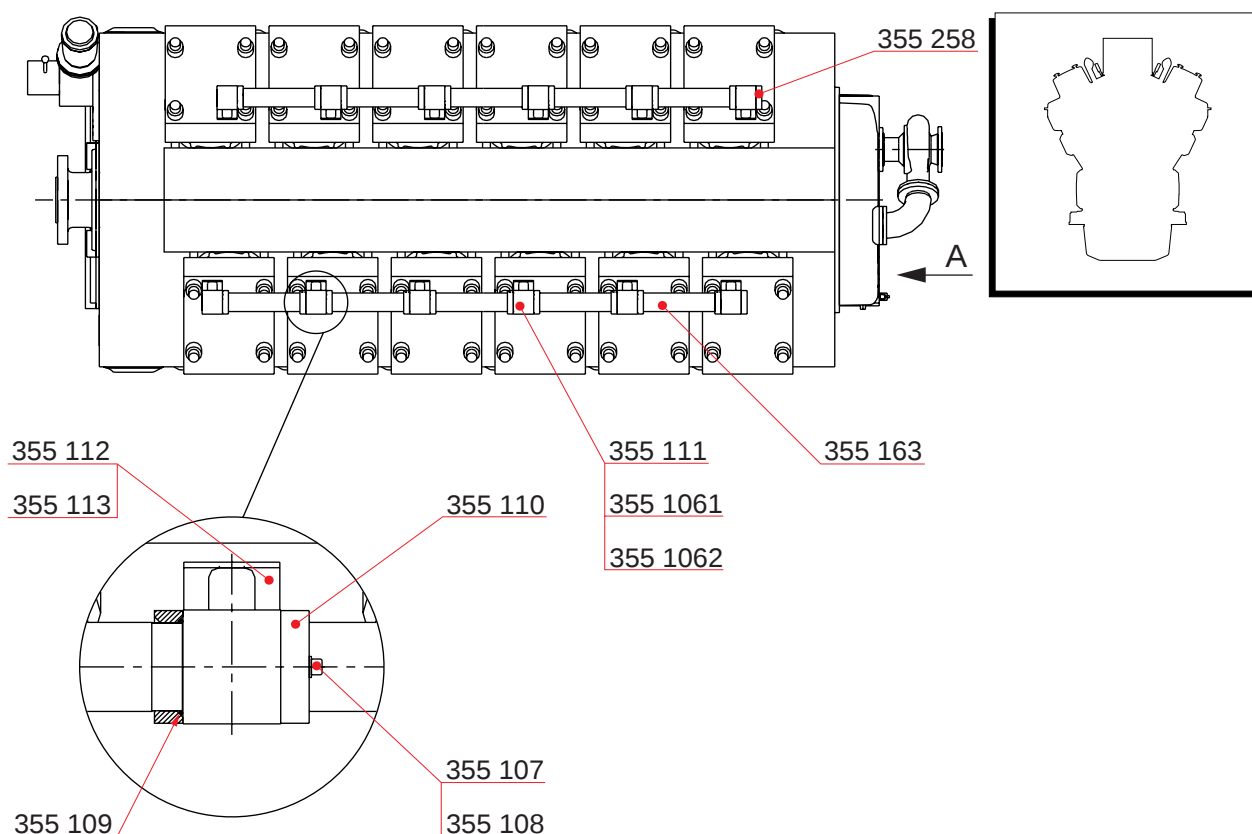
HT water system



Part No.	Description	Qty [Pcs]	Wt. [Kg]
354 001	Gasket	10	-
354 002	Screw	32	-
354 138	Pipe	1	-
354 139	Pipe	1	-
354 140	Pipe	1	-
354 141	Pipe	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

HT-water pipes between cylinder heads

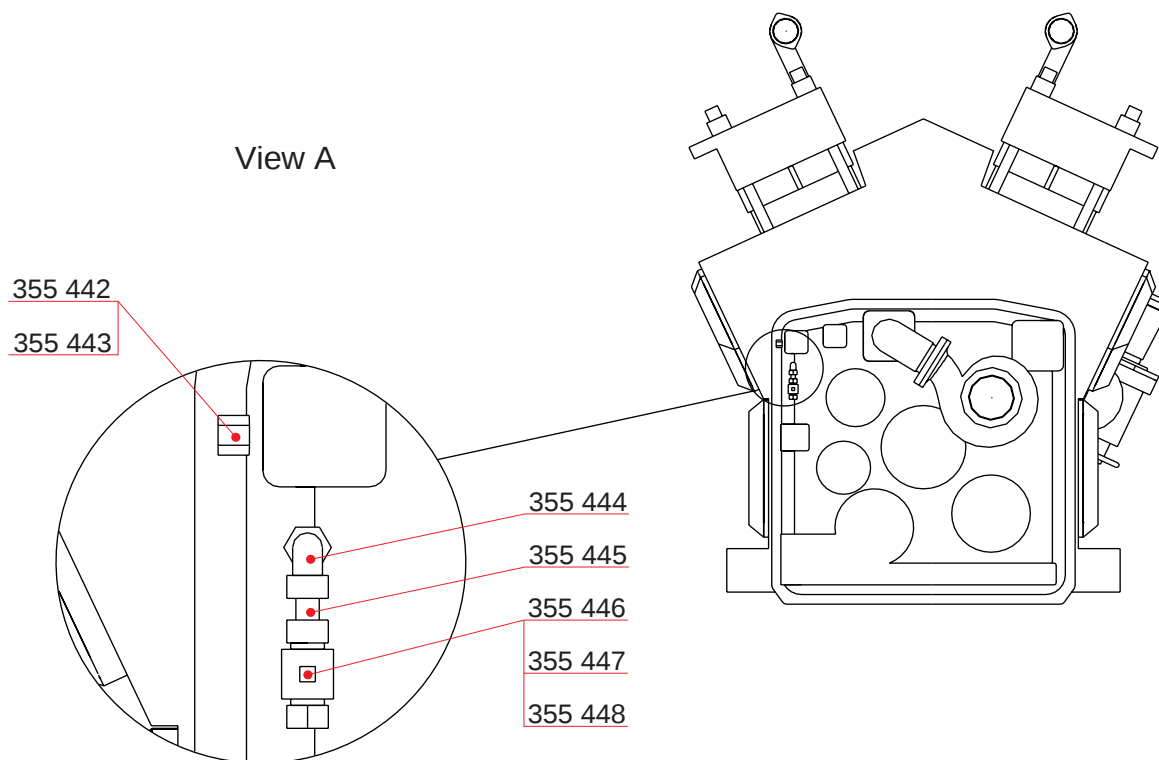


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
355 107	Screw	*	-				
355 108	Washer	*	-				
355 109	O-ring	*	-				
355 110	Flange	*	0.5				
355 111	Connection piece	*	5.9				
355 1061	Gasket	1	-				
355 1062	Plug	1	-				
355 112	O-ring	*	-				
355 113	Screw	*	-				
355 163	Pipe	*	2.0				
355 258	Flange	2	-				

NOTE! * See page 3

Edition: D
 Page: 2(3)
 Updated: 16.06.2004

HT-water pipes between cylinder heads



Part No.	Description	Qty [Pcs]	Wt. [Kg]
355 442	Extension piece	1	0.1
355 443	Sealing ring	1	-
355 444	Pipe union	1	0.3
355 445	Pipe	1	-
355 446	Valve	1	0.4
355 447	Cutting ring	2	-
355 448	Union nut	2	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

HT-water pipes between cylinder heads

Quantity according to number of cylinders

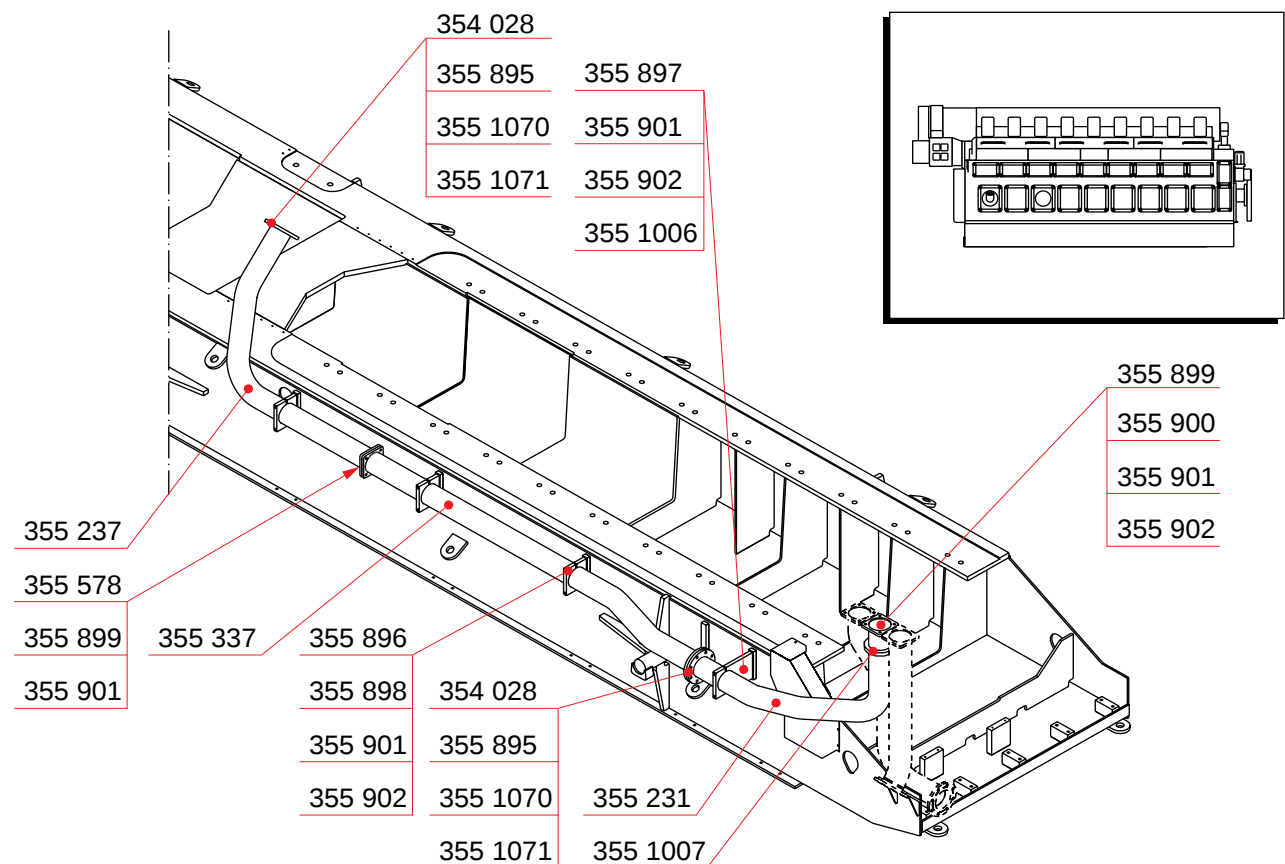
Part No	Pieces		
	12V34	16V34	18V34
355 107	44	60	68
355 108	44	60	68
355 109	22	30	34
355 110	20	28	32
355 111	12	16	18
355 112	12	16	18
355 113	24	32	38
355 163	10	14	16

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

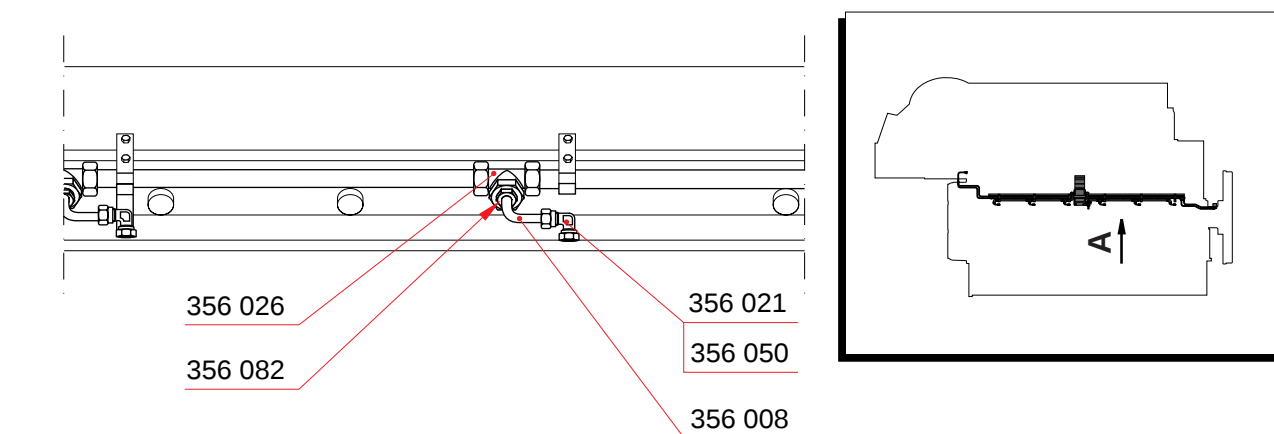
HT water pipes to charge air cooler



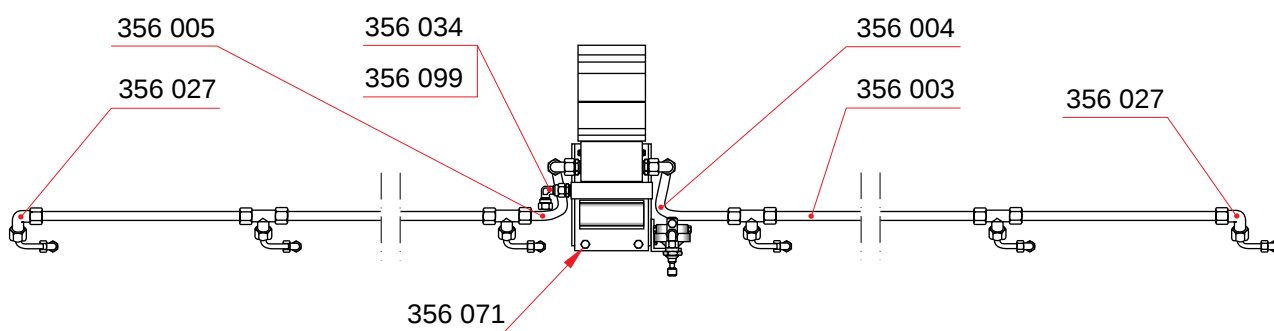
Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
354 028	Gasket	2	0.1				
355 231	Pipe	1	-				
355 237	Pipe	1	-				
355 337	Pipe	1	-				
355 578	Screw	8	-				
355 895	Washer	16	-				
355 896	Clamp	3	-				
355 897	Pipe clamp	1	-				
355 898	Screw	6	0.4				
355 899	Gasket	3	-				
355 900	Screw	4	0.1				
355 901	Nut	20	-				
355 902	Washer	12	-				
355 1006	Screw	2	0.7				
355 1007	Pipe clamp	1	5.0				
355 1070	Screw	16	0.2				
355 1071	Nut	16	-				

This page is intentionally left blank.

Oil mist alarm system



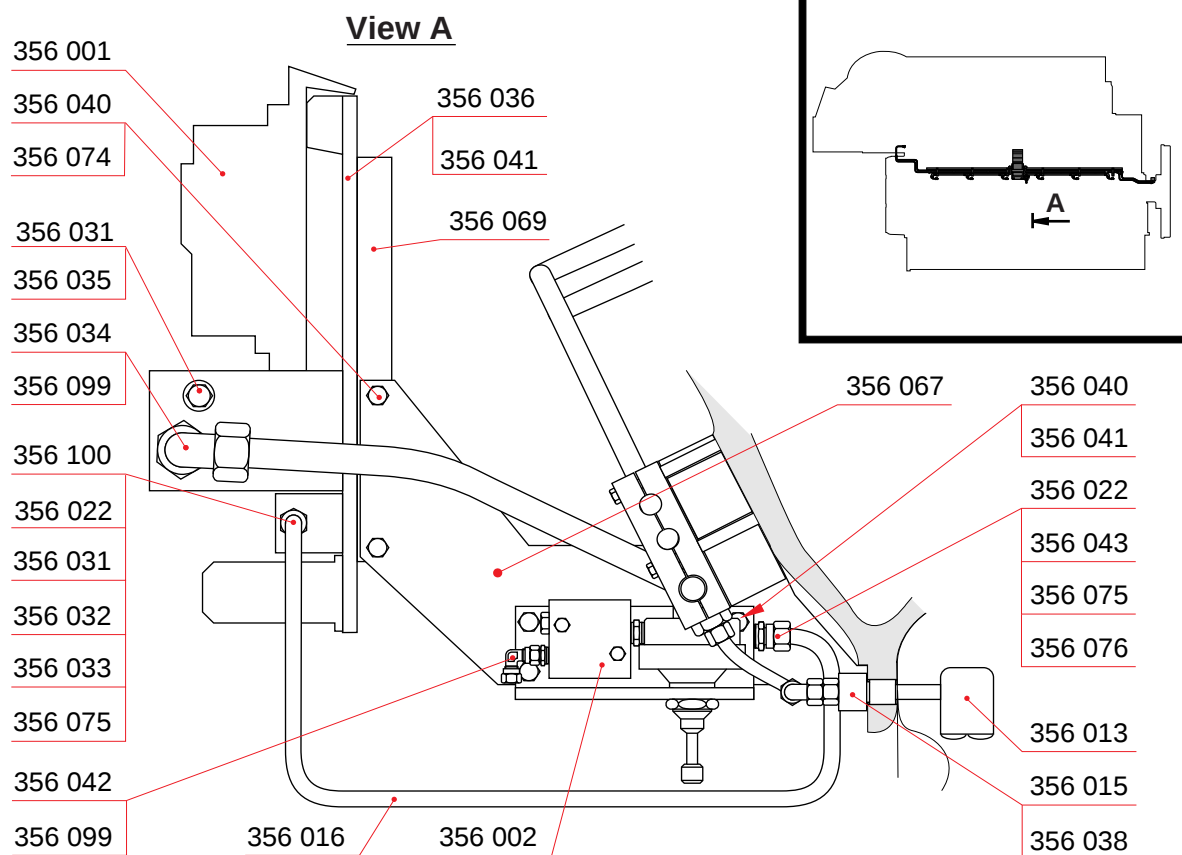
View A



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
356 003	Pipe	7	0.5				
356 004	Pipe	1	-				
356 005	Pipe	1	-				
356 008	Pipe	9	-				
356 021	Pipe union	9	-				
356 026	Pipe union	7	0.5				
356 027	Pipe union	2	0.3				
356 034	Pipe union	3	0.4				
356 050	Pipe union	9	-				
356 071	Screw	2	-				
356 082	Pipe union	9	0.2				
356 099	Sealing ring	3	-				

Edition: B
 Page: 2(3)
 Updated: 27.09.2004

Oil mist alarm system



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
356 001	Oil mist detector	1	-	356 099	Sealing ring	3	-
356 002	Pressure regulator	1	2.0	356 100	Pipe union	1	-
356 013	Pipe	9	-				
356 015	Pipe union	9	-				
356 016	Pipe	1	0.2				
356 022	Cutting ring	2	-				
356 031	Sealing ring	3	-				
356 032	Pipe union	1	0.1				
356 033	Pipe union	1	-				
356 034	Pipe union	3	0.4				
356 035	Plug	2	-				
356 036	Screw	4	-				
356 038	Sealing ring	9	-				
356 040	Screw	4	-				
356 041	Nut	6	-				
356 042	Pipe union	1	-				
356 043	Sealing ring	2	-				
356 067	Bracket	1	8.7				
356 069	Supporting plate	1	2.1				
356 074	Spring washer	4	-				
356 075	Hose clamp	2	-				
356 076	Pipe union	1	-				

Oil mist alarm system

Quantity according to number of cylinders

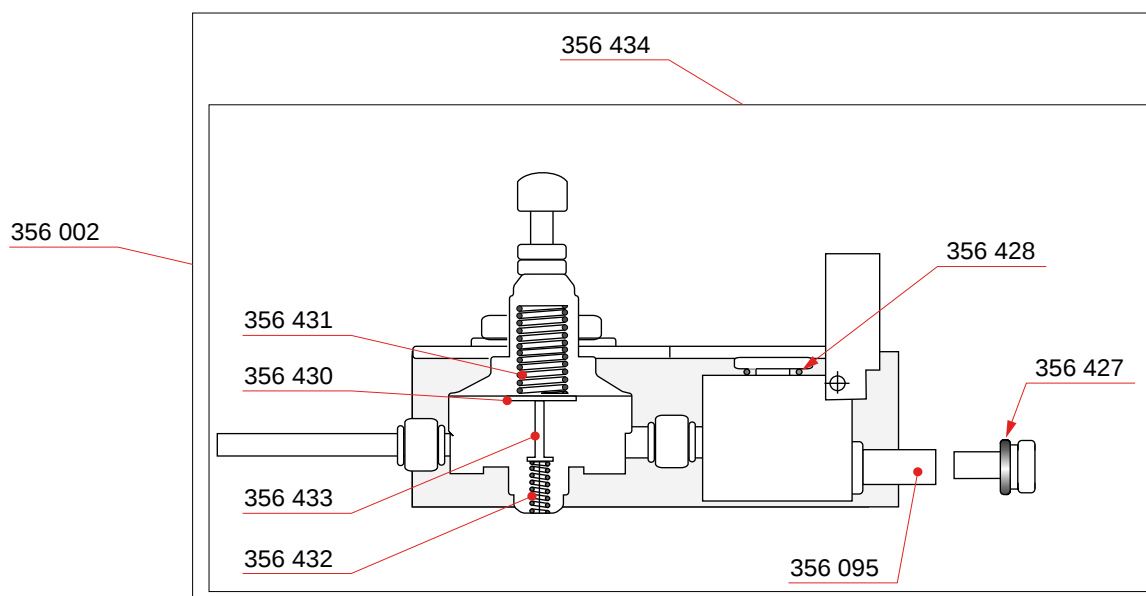
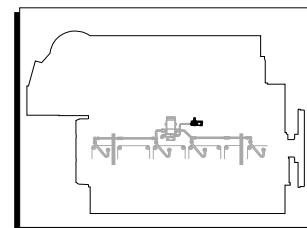
Part No	Pieces		
	12V32	16V32	18V32
356 003	4	6	7
356 008	6	8	9
356 013	6	8	9
356 015	6	8	9
356 021	6	8	9
356 026	4	6	7
356 038	6	8	9
356 050	6	8	9
356 082	6	8	9

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Pressure control valve

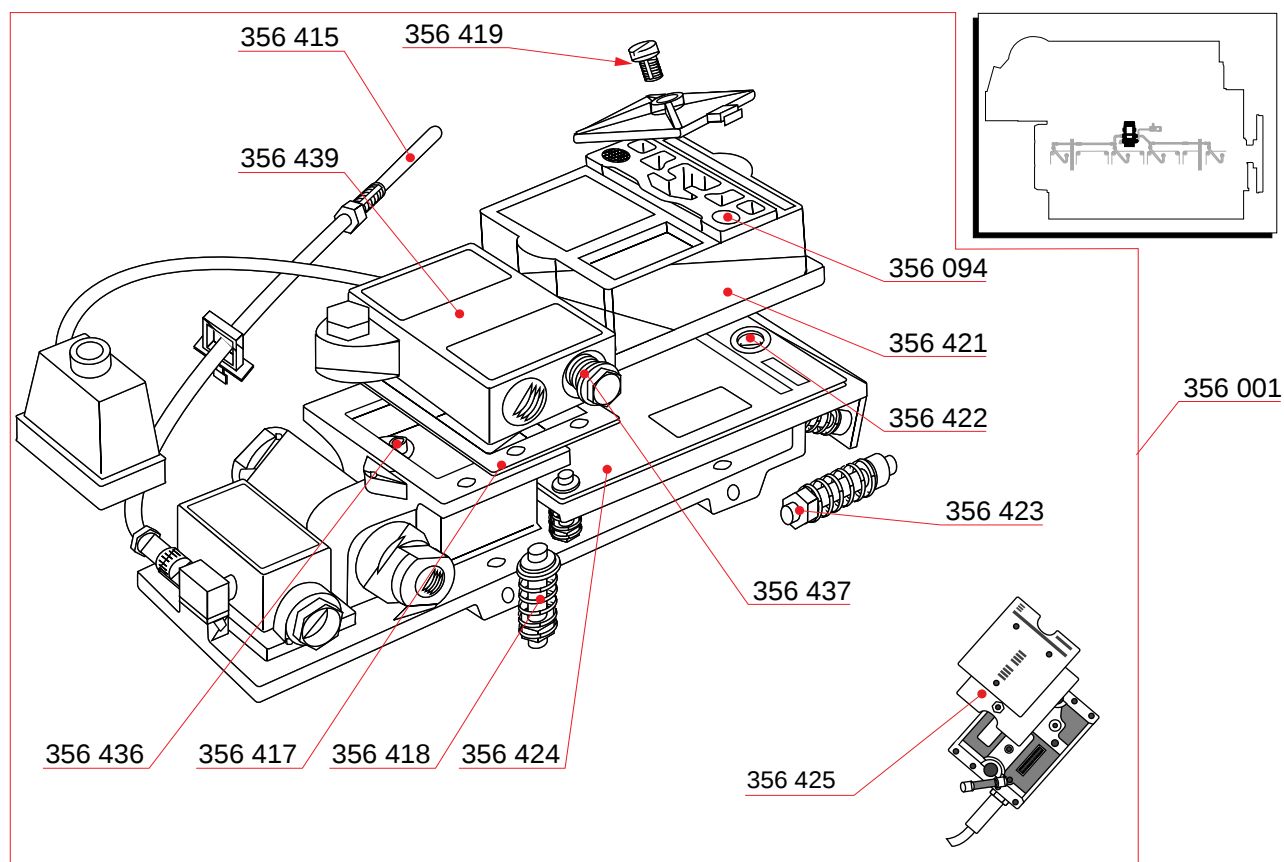


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
356 002	Pressure regulator	1	-				
356 434	Repair kit	1	-				
356 095	Filter	1	-				
356 427	O-ring	1	-				
356 428	O-ring	1	-				
356 430	Membrane (1)	1	-				
356 431	Spring (1)	1	-				
356 432	Spring (1)	1	-				
356 433	Needle (1)	1	-				
356 435	Sealing ring (1)	1	-				

NOTE! (1) Part No marked (1) can not be ordered separately.

This page is intentionally left blank.

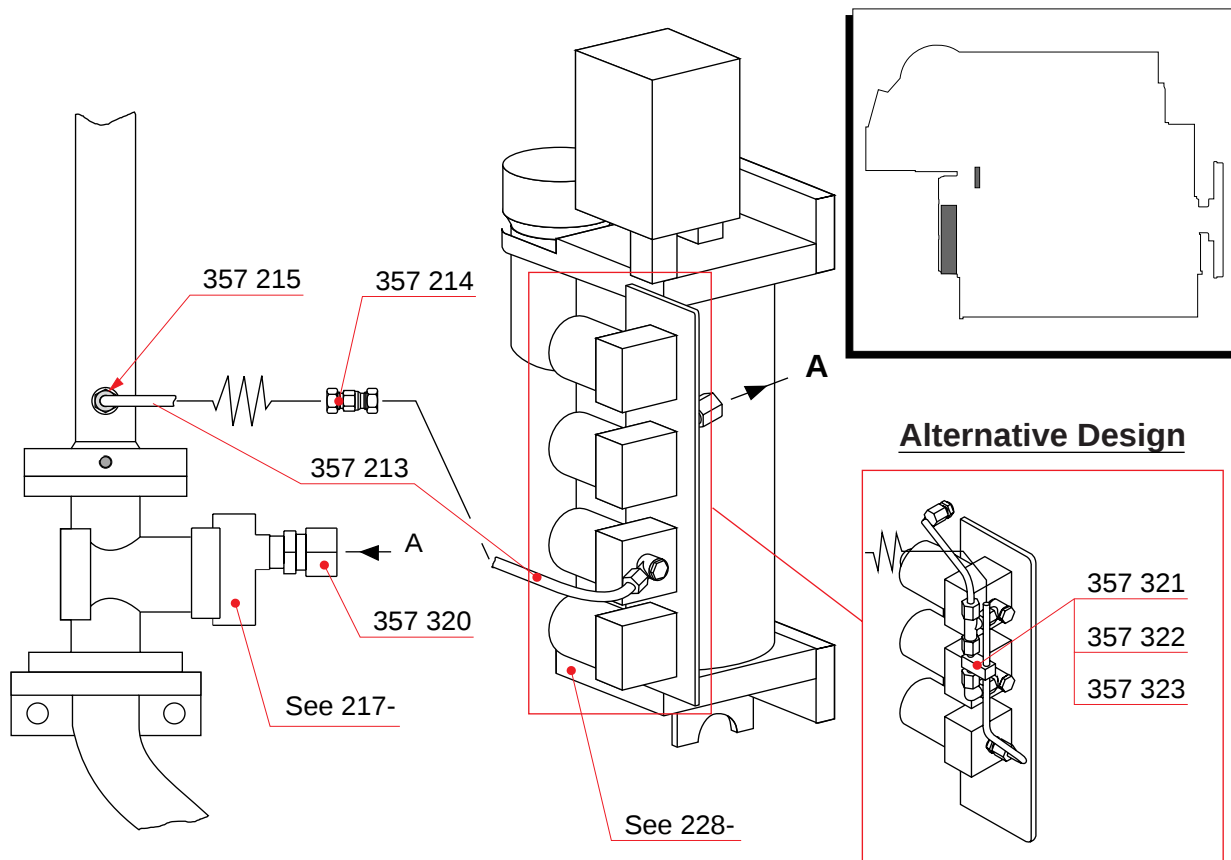
Oil mist detector



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
356 001	Oil mist detector	1	-				
356 094	Filter	2	-				
356 415	Heating element	1	0.1				
356 417	Gasket	1	-				
356 418	Flexible mounting bottom	2	-				
356 419	Gasket	2	-				
356 421	Measure head	1	-				
356 422	Bellows	2	-				
356 423	Flexible mounting top	2	-				
356 424	Seal	1	-				
356 425	Electric module	1	0.6				
356 436	Seal	1	-				
356 437	Sealing ring	3	-				
356 439	Connecting casing	1	-				

This page is intentionally left blank.

Control air for starting fuel limiter

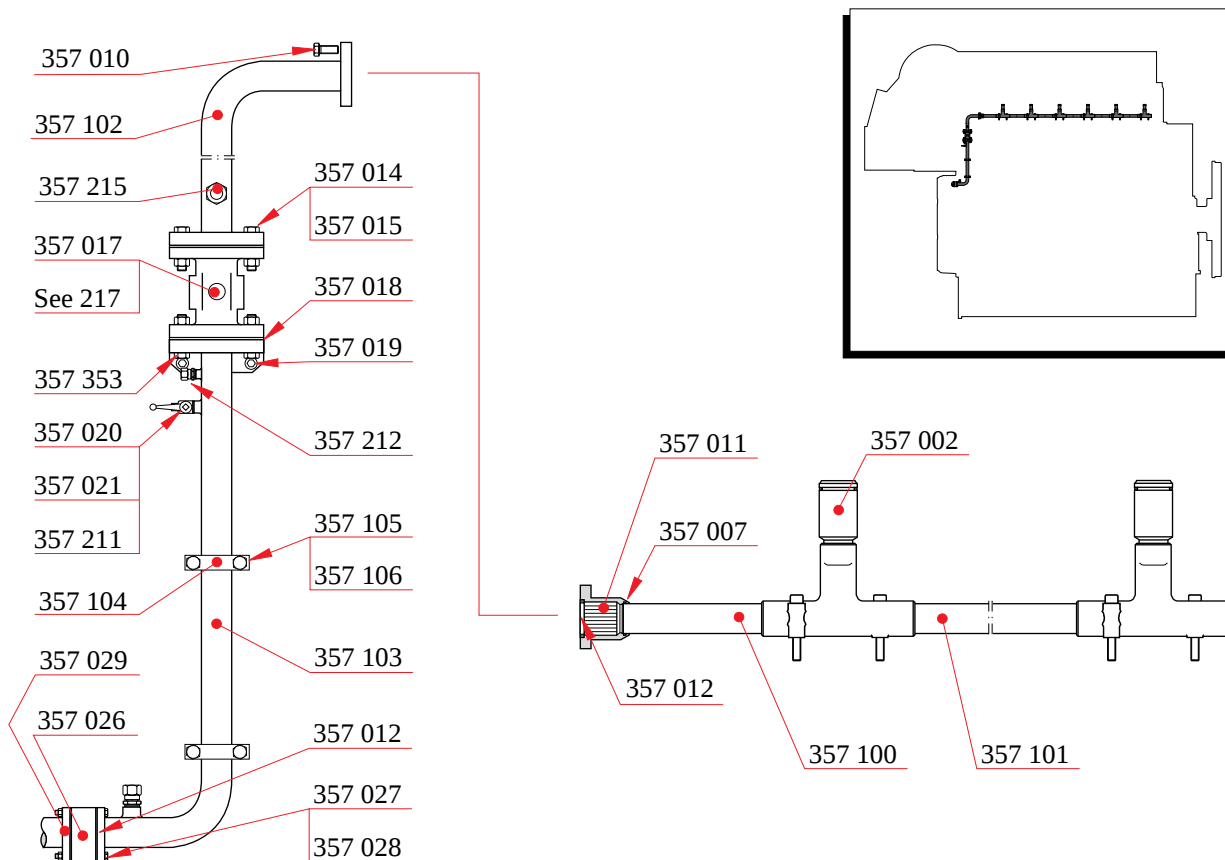


Part No.	Description	Qty [Pcs]	Wt. [Kg]
357 213	Pipe	1	0.2
357 214	Non-return valve	1	-
357 215	Pipe union	1	-
357 320	Pipe union	1	-
357 321	Pipe clamp	1	-
357 322	Screw	1	-
357 323	Nut	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Starting air system V32



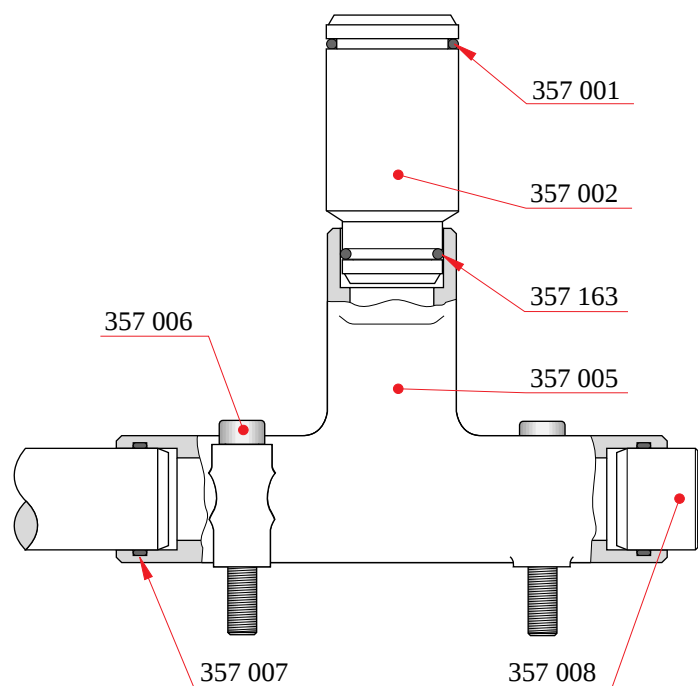
Part No.	Description	Qty [Pcs]	Wt. [Kg]
357 002	Pipe	*	0.5
357 007	O-ring	*	-
357 010	Screw	4	-
357 011	Flame arrester	1	1.0
357 012	O-ring	3	-
357 014	Screw	8	-
357 015	Nut	8	-
357 017	Main starting valve	1	7.1
357 018	Gasket	2	-
357 019	Screw	2	-
357 020	Valve	1	0.2
357 021	Sealing ring	1	-
357 026	Non-return valve	1	0.5
357 027	Screw	4	-
357 028	Nut	4	-
357 029	Flange	1	-
357 100	Pipe	1	0.8
357 101	Pipe	*	1.0
357 102	Pipe	1	3.5
357 103	Pipe	1	5.7
357 104	Pipe clamp	2	0.6
357 105	Screw	2	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
357 106	Nut	2	-
357 211	Lever	1	1.3
357 212	Pipe union	1	-
357 215	Pipe union	1	-
357 353	Screw	2	-

NOTE! * See page 4.

Edition: B
 Page: 2(4)
 Updated: 22.01.1999

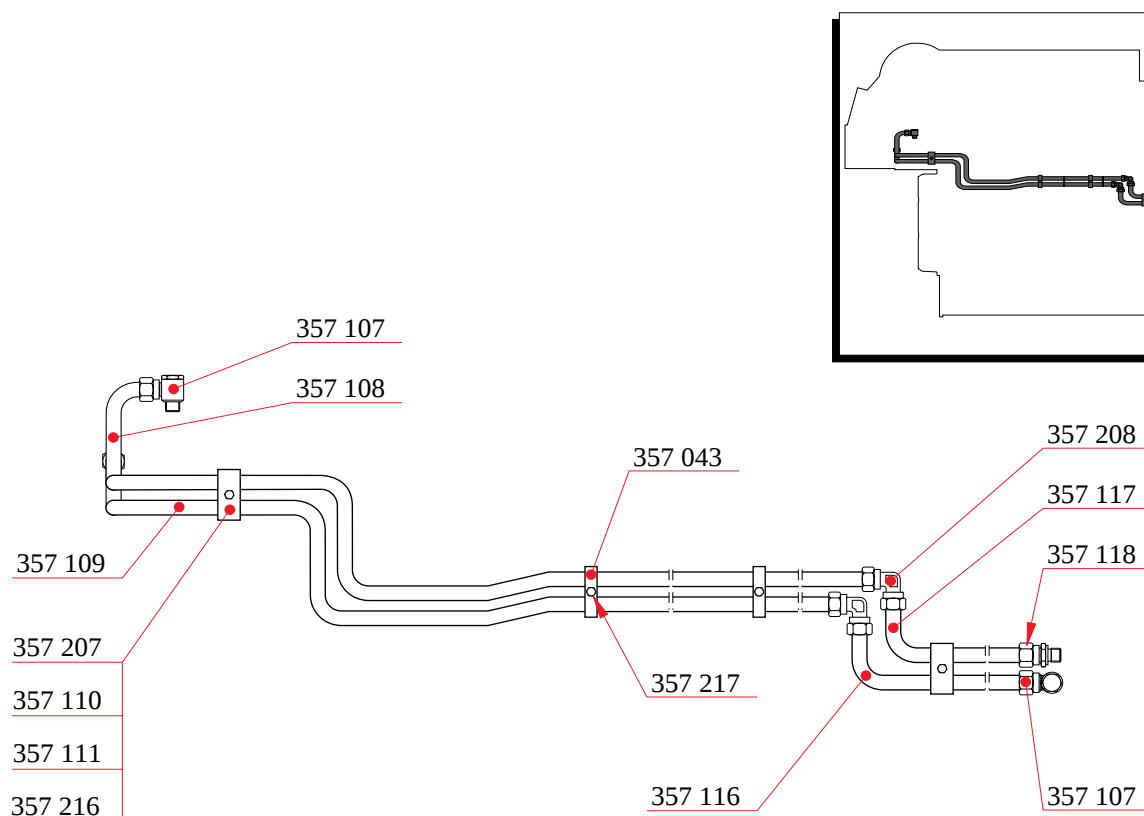
Starting air system V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
357 001	O-ring	*	-				
357 002	Pipe	*	0.5				
357 005	T-piece	*	1.9				
357 006	Screw	*	-				
357 007	O-ring	*	-				
357 008	End piece	1	0.2				
357 163	O-ring	*	-				

NOTE! * See page 4.

Starting air system V32



Part No.	Description	Qty [Pcs]	Wt. [Kg]
357 043	Pipe clamp	*	0.6
357 107	Pipe union	4	0.2
357 108	Pipe	1	2.8
357 109	Pipe	1	2.8
357 110	Distance piece	2	0.1
357 111	Cover	2	-
357 116	Pipe	1	0.3
357 117	Pipe	1	0.3
357 118	Pipe union	3	-
357 207	Pipe clamp	4	-
357 208	Pipe union	2	0.2
357 216	Screw	2	-
357 217	Screw	*	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Edition: B

Page: 4(4)

Updated: 22.01.1999

Starting air system V32

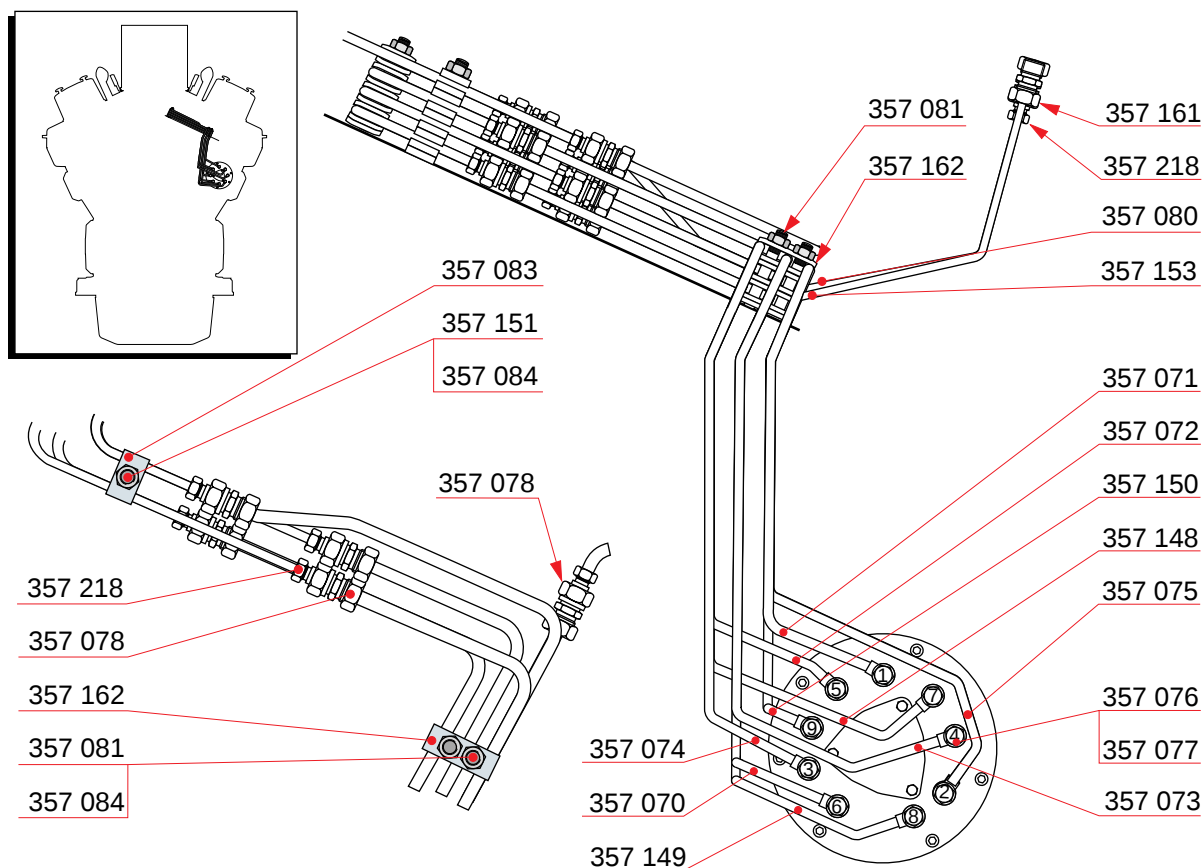
Quantity according to number of cylinders

Part No	Pieces		
	12V32	16V32	18V32
357 001	6	8	9
357 002	6	8	9
357 005	6	8	9
357 006	12	16	18
357 007	13	16	18
357 043	6	8	9
357 101	5	7	8
357 163	6	8	9
357 217	12	16	18

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

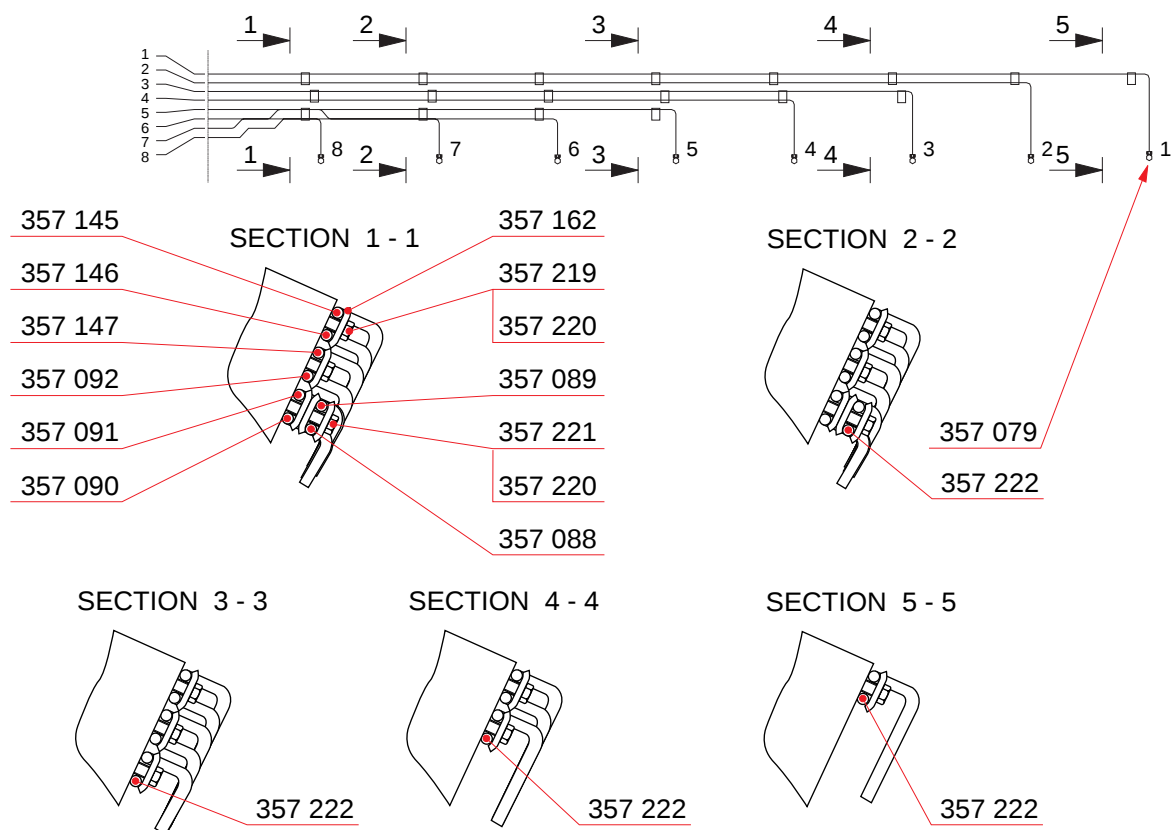
Control air piping



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
357 070	Pipe	1	-	357 071	Pipe	1	-
357 071	Pipe	1	-	357 072	Pipe	1	-
357 072	Pipe	1	-	357 073	Pipe	1	-
357 073	Pipe	1	-	357 074	Pipe	1	-
357 074	Pipe	1	-	357 075	Pipe	1	-
357 075	Pipe	1	-	357 076	Hollow screw	9	-
357 076	Hollow screw	9	-	357 077	Sealing ring	18	-
357 077	Sealing ring	18	-	357 078	Pipe union	9	-
357 078	Pipe union	9	-	357 080	Pipe	8	-
357 080	Pipe	8	-	357 081	Screw	2	-
357 081	Screw	2	-	357 083	Pipe clamp	32	-
357 083	Pipe clamp	32	-	357 084	Nut	3	-
357 084	Nut	3	-	357 148	Pipe	1	-
357 148	Pipe	1	-	357 149	Pipe	1	-
357 149	Pipe	1	-	357 150	Pipe	1	0.2
357 150	Pipe	1	0.2	357 151	Screw	1	-
357 151	Screw	1	-	357 153	Pipe	1	0.2
357 153	Pipe	1	0.2	357 161	Pipe union	9	-
357 161	Pipe union	9	-	357 162	Pipe clamp	8	-
357 162	Pipe clamp	8	-	357 218	Pipe union	16	-
357 218	Pipe union	16	-				

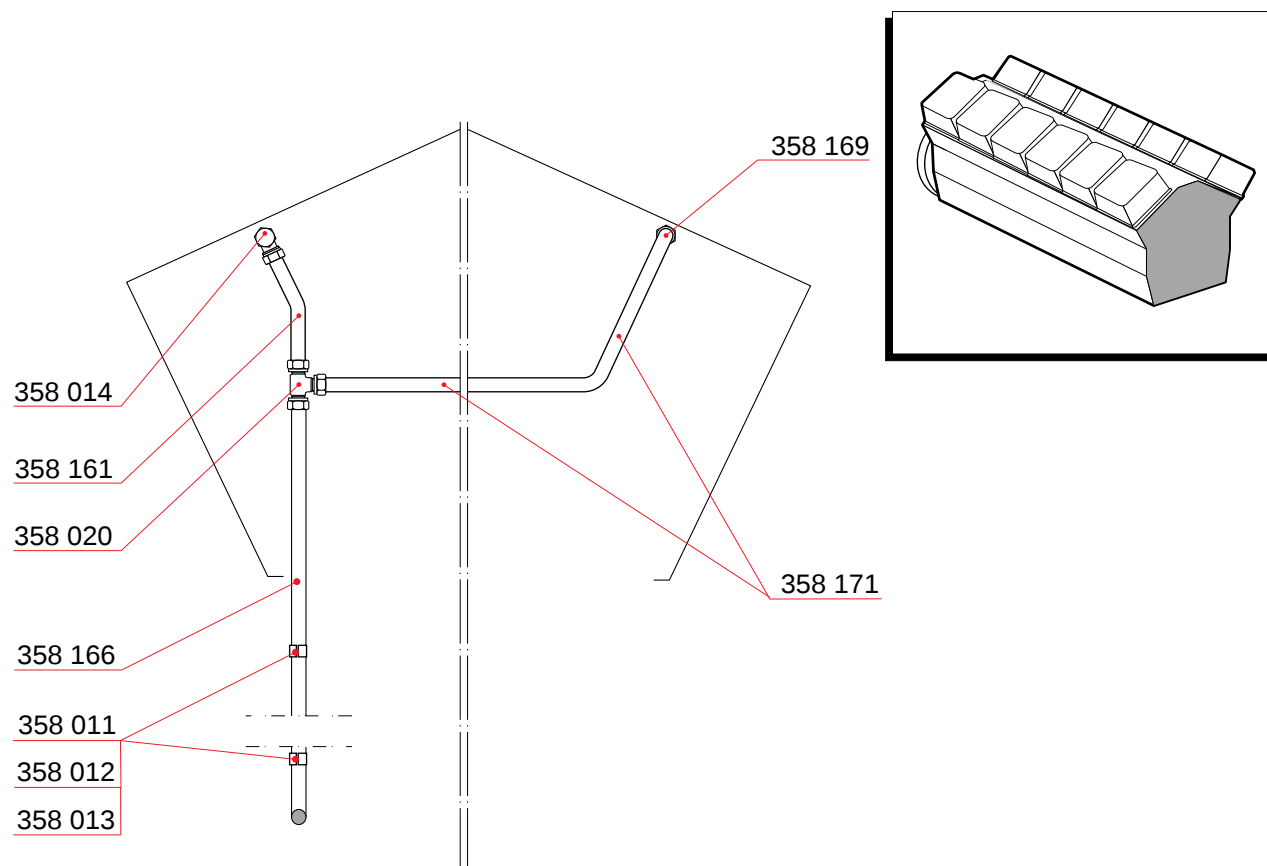
Edition: A
 Page: 2(2)
 Updated: 30.10.1995

Control air piping



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
357 079	Pipe union	8	-				
357 088	Pipe	1	-				
357 089	Pipe	1	-				
357 090	Pipe	1	-				
357 091	Pipe	1	-				
357 092	Pipe	1	-				
357 145	Pipe	1	-				
357 146	Pipe	1	-				
357 147	Pipe	1	-				
357 162	Pipe clamp	8	-				
357 219	Screw	16	-				
357 220	Washer	18	-				
357 221	Screw	2	-				
357 222	Pin	4	-				

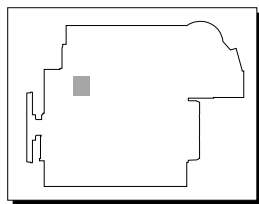
Leak oil pipes V32, clean



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
358 011	Pipe clamp	2	0.2				
358 012	Screw	2	-				
358 013	Nut	2	-				
358 014	Pipe union	1	0.4				
358 020	Pipe union	1	0.5				
358 161	Pipe	1	1.5				
358 166	Pipe	1	1.5				
358 169	Pipe union	1	0.2				
358 171	Pipe	1	1.0				

Edition: B
 Page: 2(2)
 Updated: 14.12.1994

Leak oil pipes V32, clean



B-bank

358 009

358 010

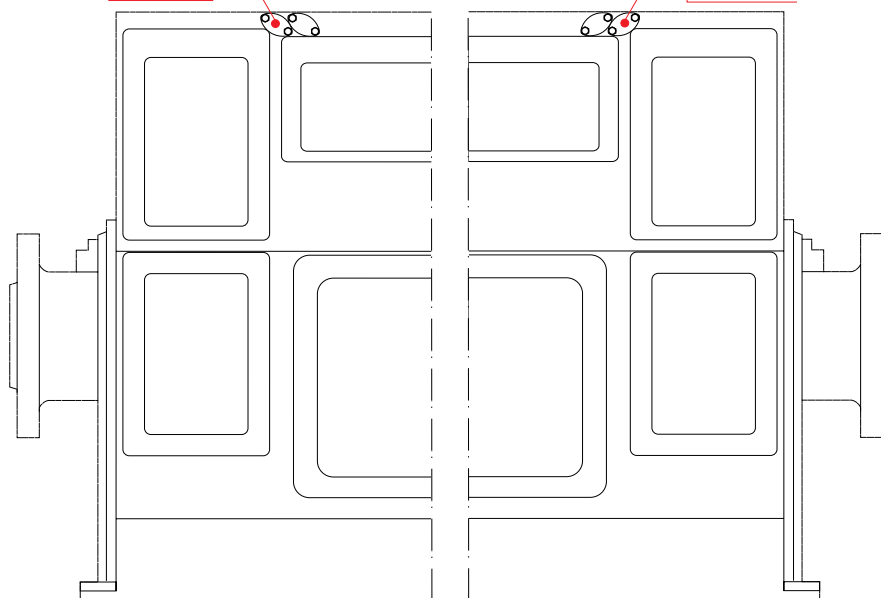
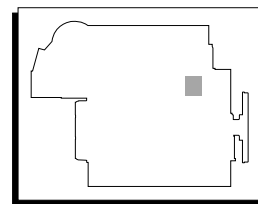
358 512

A-bank

358 009

358 010

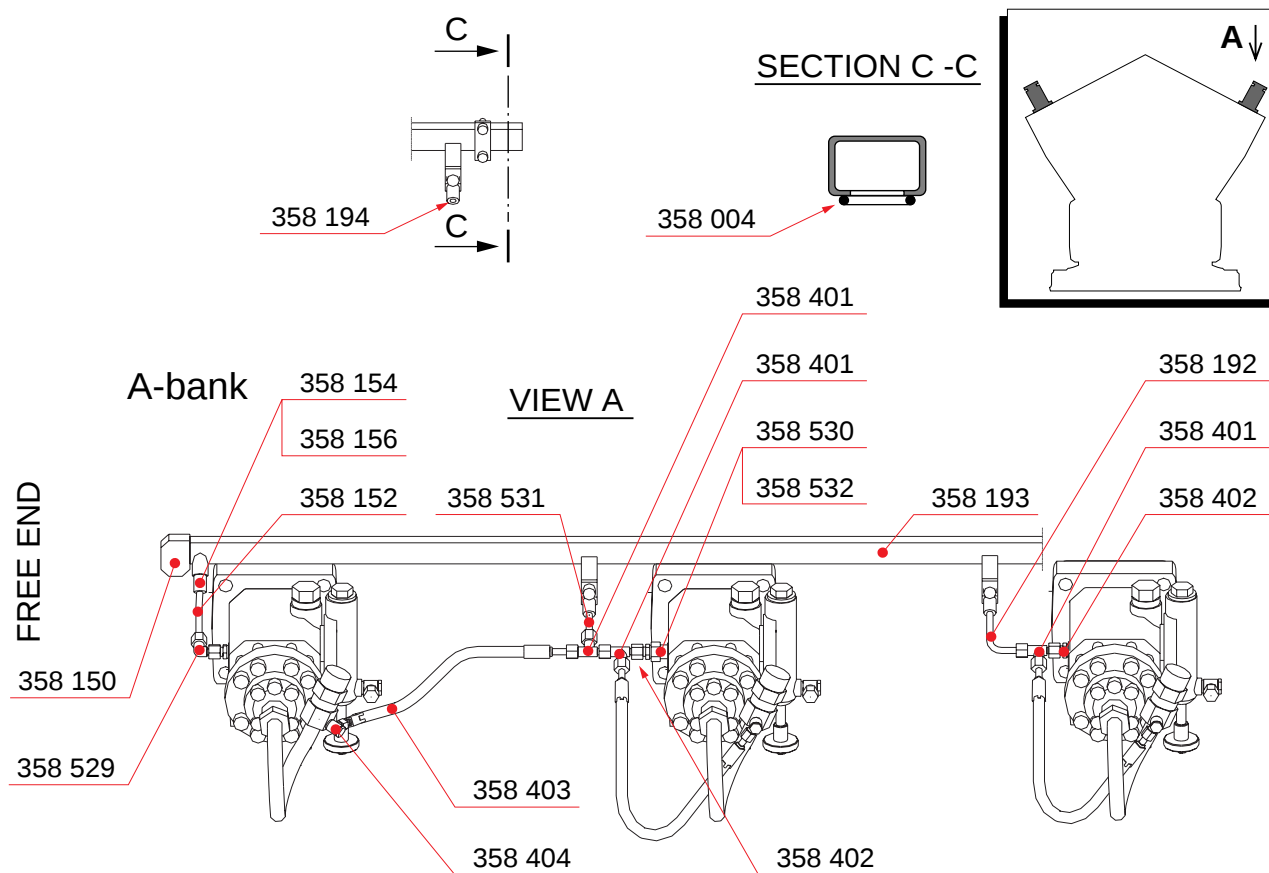
358 512



Part No.	Description	Qty [Pcs]	Wt. [Kg]
358 009	Screw	4	-
358 010	Gasket	2	-
358 512	Blank flange	2	0.2

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Leak fuel oil system, clean V32



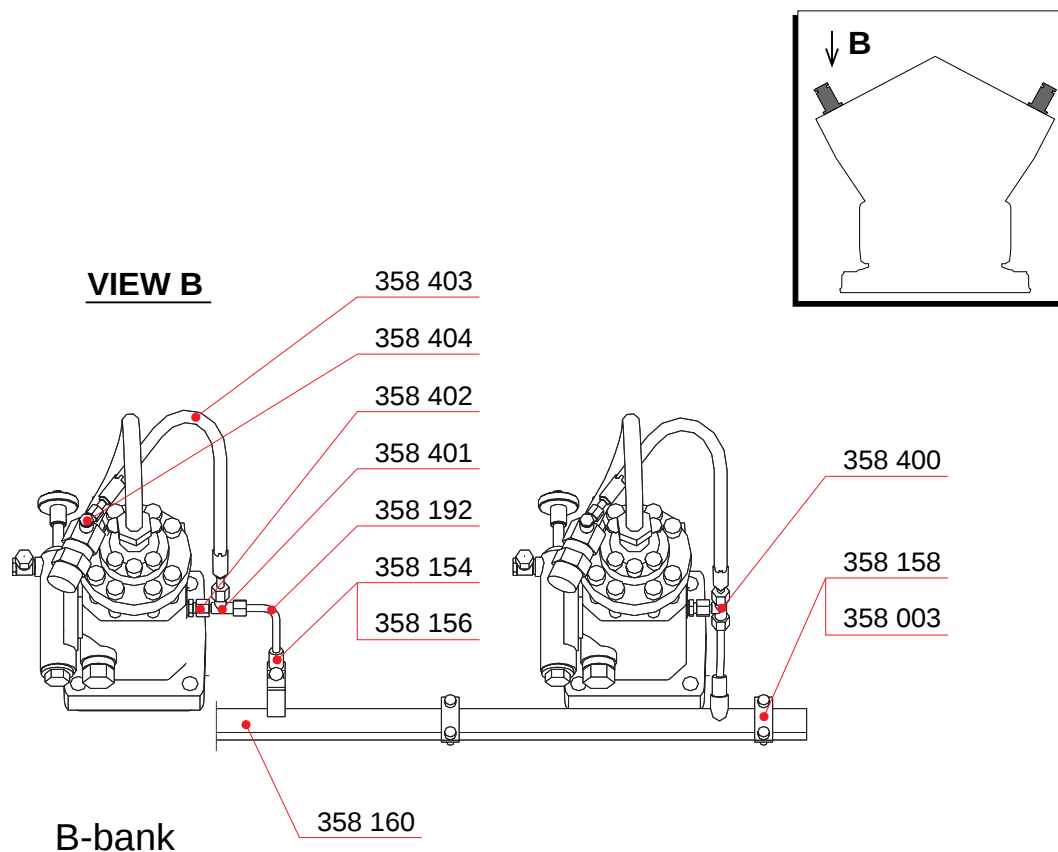
Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
358 004	O-ring	4	-				
358 150	Screw	2	-				
358 152	Pipe	2	-				
358 154	O-ring	*	-				
358 156	Connection piece	*	-				
358 192	Pipe	*	-				
358 193	Collecting pipe	1	12.0				
358 194	Plug	2	-				
358 401	Pipe union	*	-				
358 402	Pipe union	*	-				
358 403	Metal hose	*	-				
358 404	Pipe union	*	-				
358 529	Pipe union	1	-				
358 530	Connection piece	1	-				
358 531	Pipe	1	-				
358 532	Gasket	1	-				

NOTE! * See page 3

Edition: A
 Page: 2(3)
 Updated: 27.12.1994

Leak fuel oil system, clean V32

FREE END



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
358 003	Screw	*	-				
358 154	O-ring	*	-				
358 156	Connection piece	*	-				
358 158	Pipe clamp	*	-				
358 160	Collecting pipe, B bank	1	12.0				
358 192	Pipe	*	-				
358 400	Pipe union	1	0.1				
358 401	Pipe union	*	-				
358 402	Pipe union	*	-				
358 403	Metal hose	*	-				
358 404	Pipe union	*	-				

NOTE! * See page 3

Leak fuel oil system, clean V32

Quantity according to number of cylinders

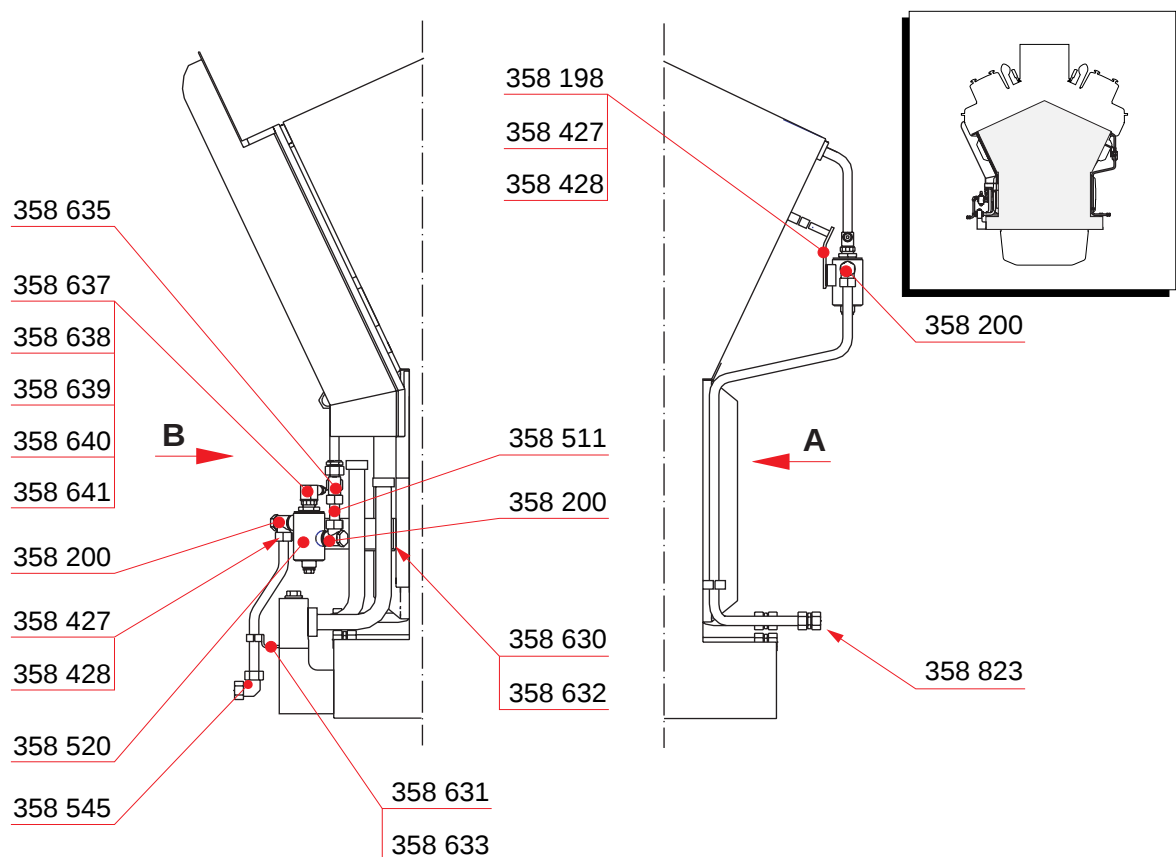
Part No	Pieces		
	12V32	16V32	18V32
358 003	16	20	22
358 154	50	66	74
358 156	24	32	36
358 158	8	10	11
358 192	9	13	15
358 401	10	15	17
358 402	10	14	16
358 403	12	16	18
358 404	12	16	18

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Leak fuel system, dirty V32

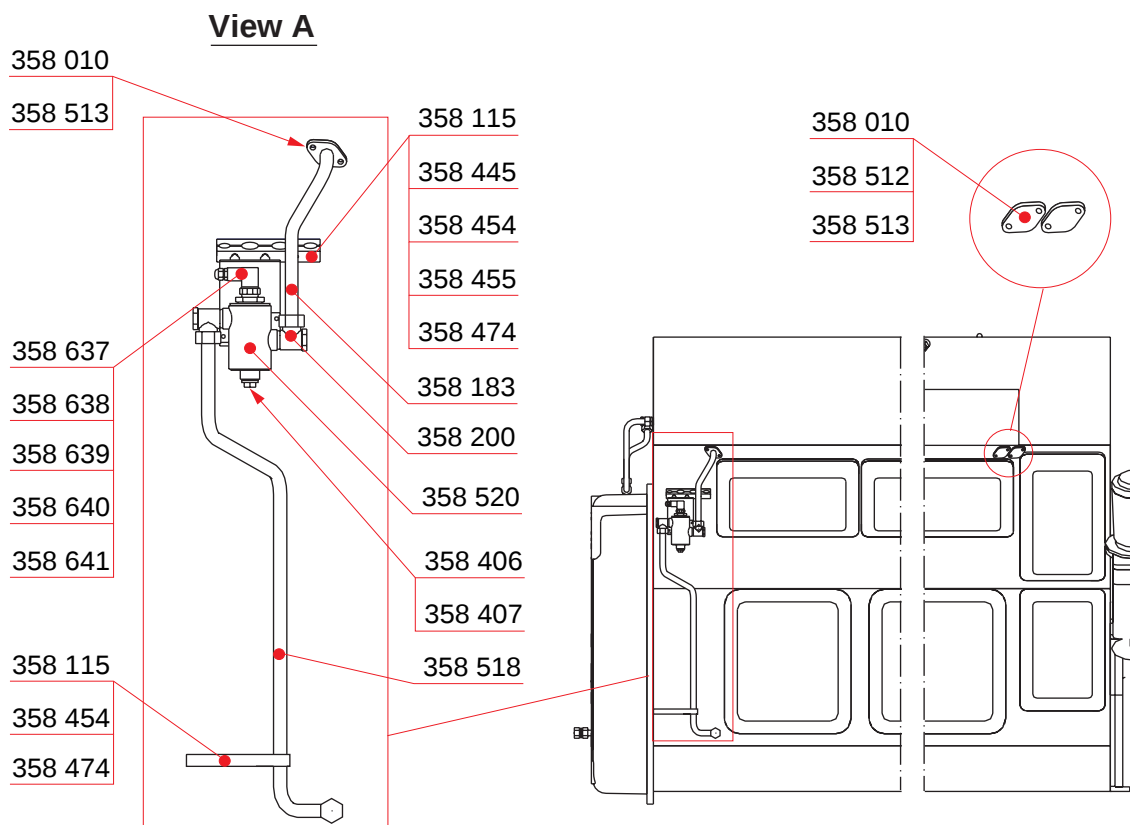


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
358 198	Bracket	1	-				
358 200	Pipe union	4	-				
358 427	Screw	8	-				
358 428	Nut	8	-				
358 511	Pipe (1)	1	-				
358 520	Leakage oil tank	2	-				
358 545	Pipe union	1	-				
358 630	Screw	3	-				
358 631	Screw	1	-				
358 632	Bracket	1	-				
358 633	Bracket	1	-				
358 635	Pipe union	1	-				
358 637	Sealing ring	2	-				
358 638	End cap	4	-				
358 639	Bush seal	2	-				
358 640	Cable (2)	1	-				
358 641	Level switch	2	-				
358 823	Pipe union	1	-				

NOTE! (1) L=690mm (2) L=18m

Edition: B
 Page: 2(3)
 Updated: 03.07.2004

Leak fuel system, dirty V32

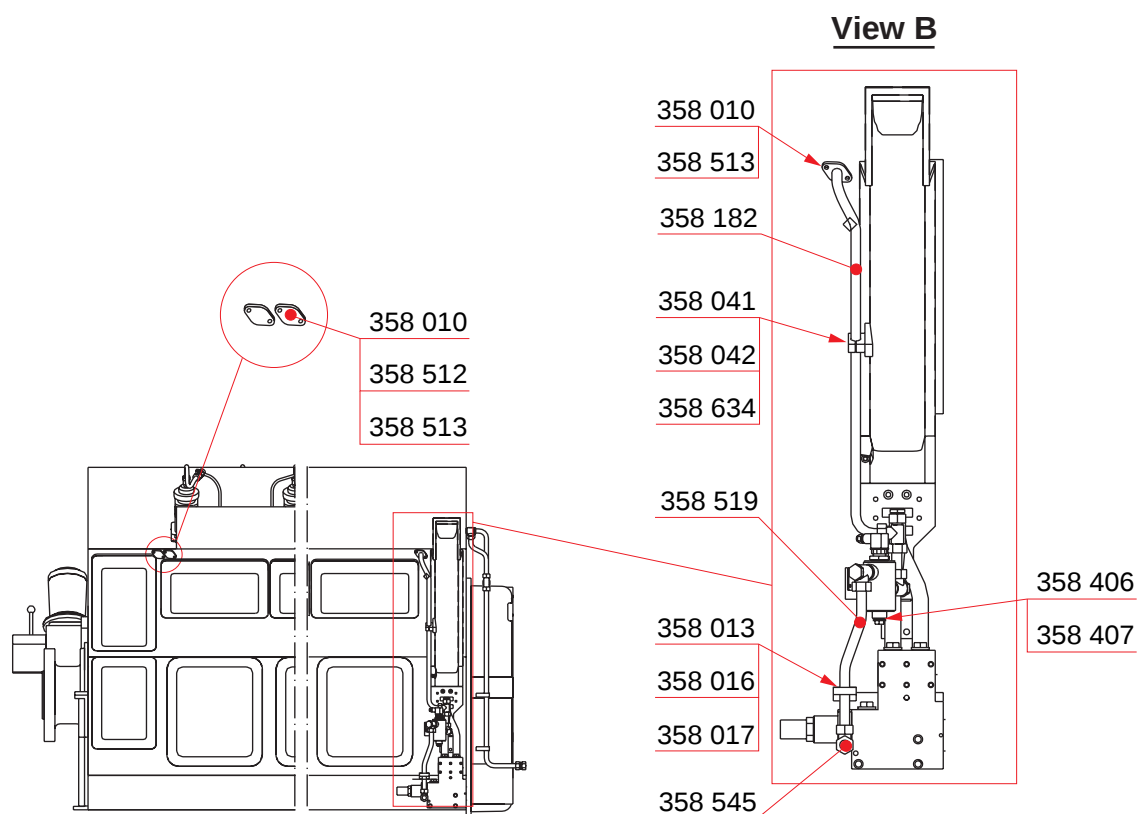


Part No.	Description	Qty [Pcs]	Wt. [Kg]
358 010	Gasket	4	-
358 115	Pipe clamp	2	-
358 183	Pipe, A bank	1	-
358 200	Pipe union	4	-
358 406	Plug	2	-
358 407	Sealing ring	2	-
358 445	Distance sleeve	2	-
358 454	Nut	8	-
358 455	Screw	2	-
358 474	Screw	4	-
358 512	Blank flange	2	-
358 513	Screw	8	-
358 518	Pipe	1	-
358 520	Leakage oil tank	2	-
358 637	Sealing ring	2	-
358 638	End cap	4	-
358 639	Bush seal	2	-
358 640	Cable (2(	1	-
358 641	Level switch	2	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

NOTE! (2) L=18m

Leak fuel system, dirty V32

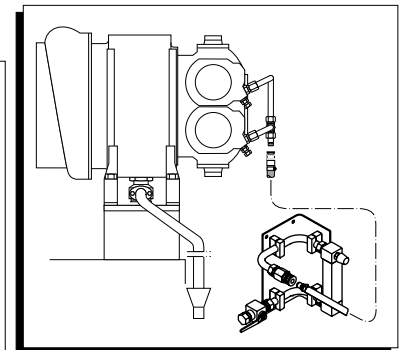
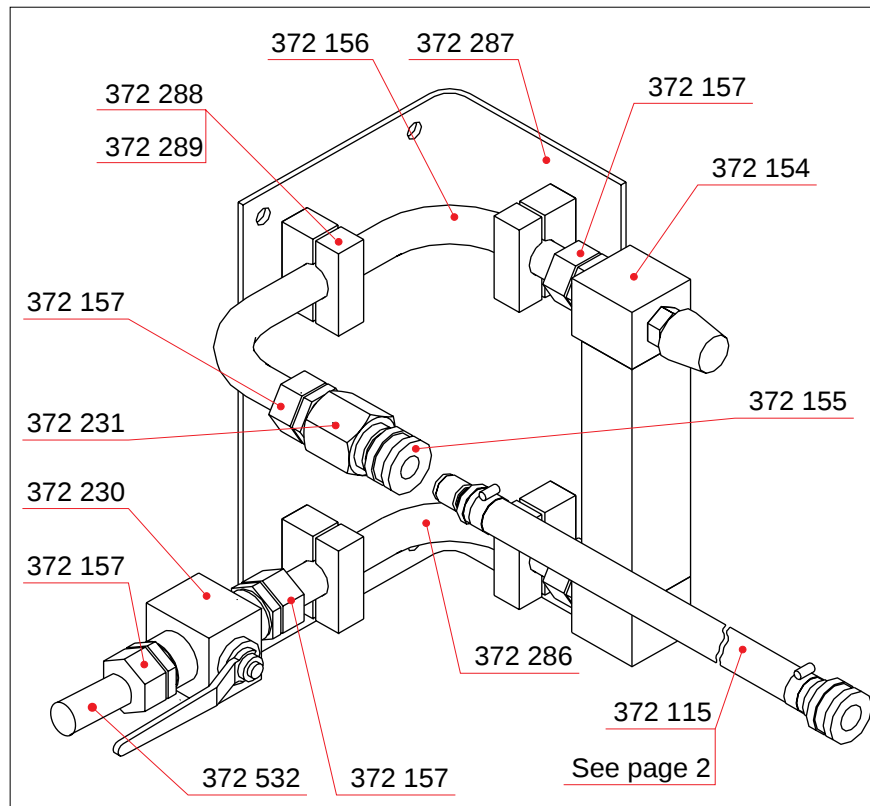


Part No.	Description	Qty [Pcs]	Wt. [Kg]
358 010	Gasket	4	-
358 013	Nut	2	-
358 016	Pipe clamp	1	-
358 017	Screw	2	-
358 041	Screw	2	-
358 042	Pipe clamp	1	-
358 182	Pipe, B bank	1	-
358 406	Plug	2	-
358 407	Sealing ring	2	-
358 512	Blank flange	2	-
358 513	Screw	8	-
358 519	Pipe	1	-
358 545	Pipe union	1	-
358 634	Nut	2	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

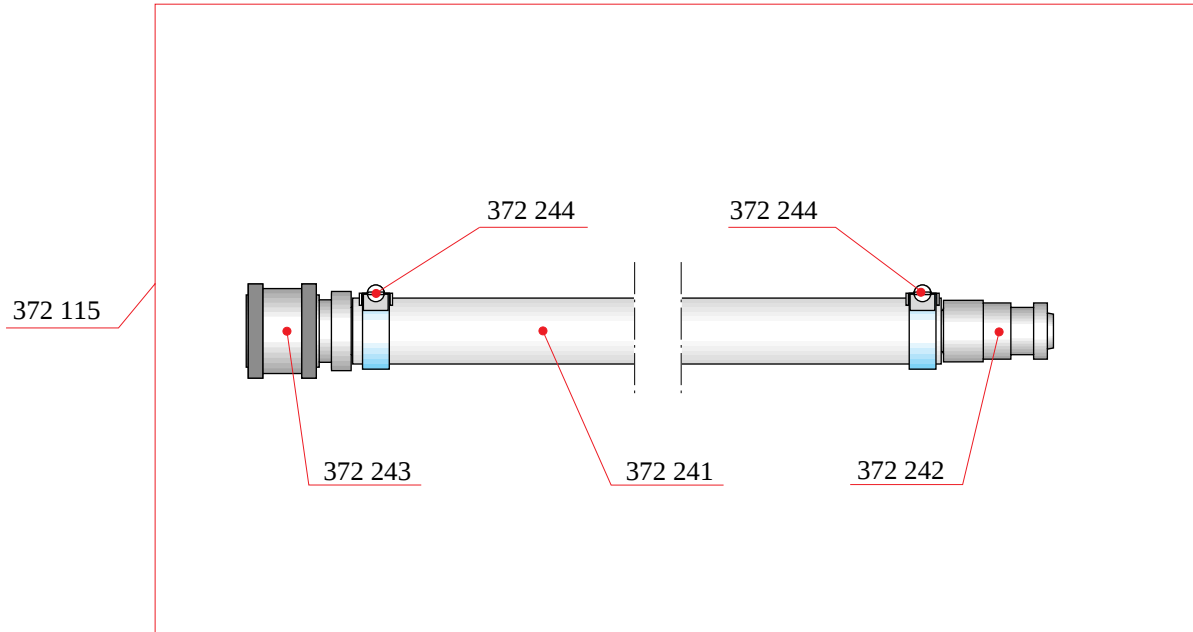
Dosing unit for wet cleaning of turbocharger



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
372 290	Dosing unit	1	-				
372 115	Hose	1	4.5				
372 154	Flow meter	1	1.7				
372 155	Quick coupling	1	0.3				
372 156	Pipe union	1	0.6				
372 157	Pipe union	5	0.3				
372 230	Valve	1	1.2				
372 231	Pipe union	1	0.4				
372 286	Pipe	1	0.4				
372 287	Bracket	1	5.8				
372 288	Pipe clamp	4	0.5				
372 289	Screw	8	-				
372 532	Pipe	1	2.0				

Edition: C
 Page: 2(2)
 Updated: 11.02.2004

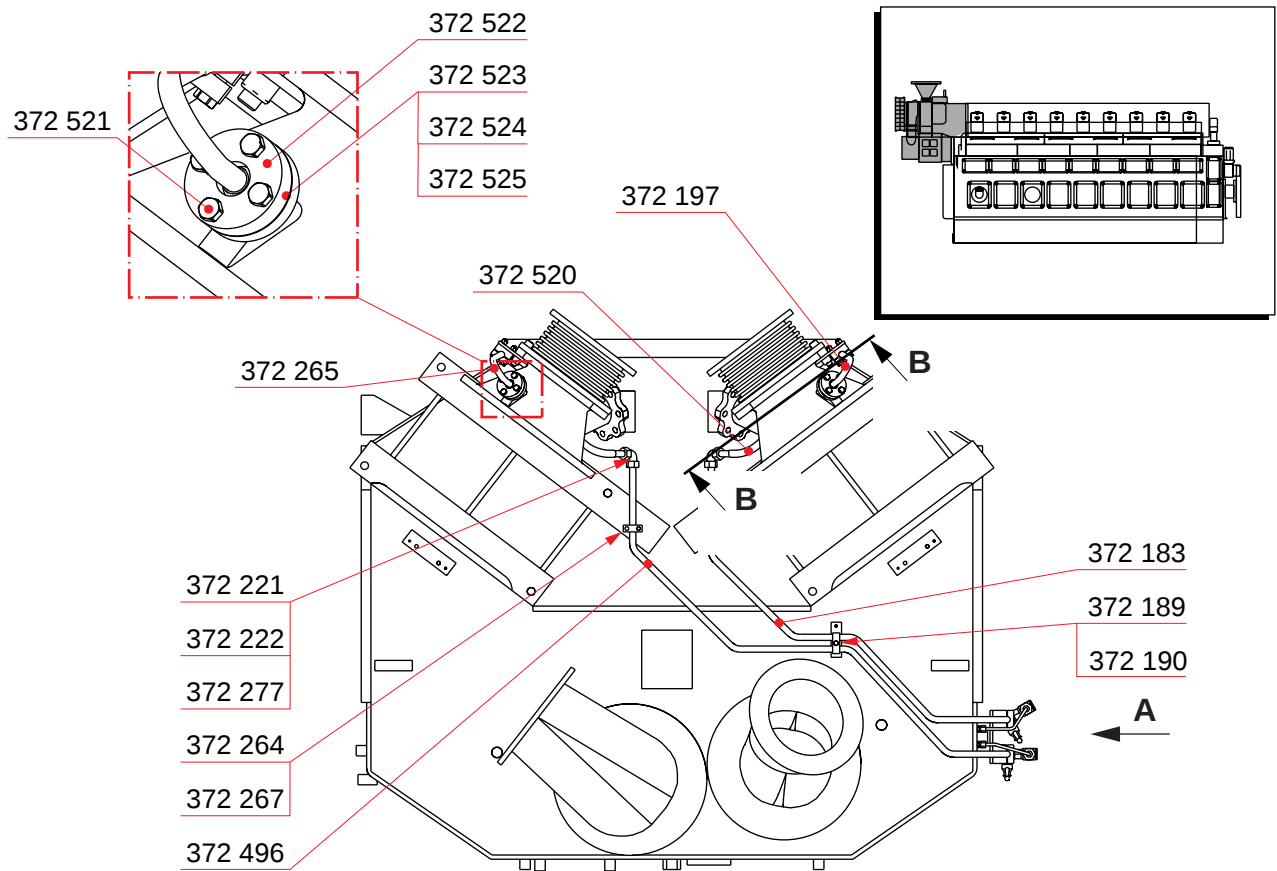
Dosing unit for wet cleaning of turbocharger



Part No.	Description	Qty [Pcs]	Wt. [Kg]
372 115	Hose	1	4.5
372 241	Flexible hose	1	0.4
372 242	Connector	1	0.1
372 243	Connector	1	0.2
372 244	Hose clamp	2	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Cleaning device for turbine

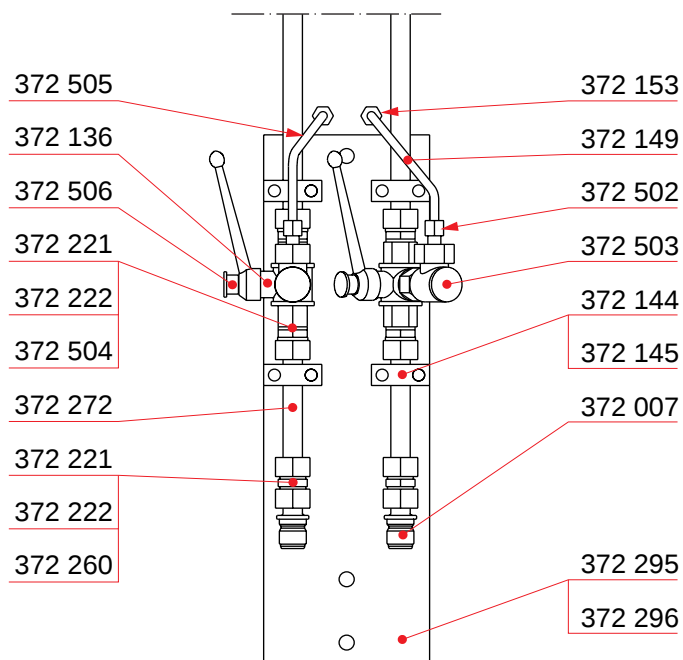


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
372 183	Pipe	1	-				
372 189	Pipe clamp	1	0.5				
372 190	Screw	1	-				
372 197	Pipe	1	-				
372 265	Pipe	1	-				
372 267	Screw	4	-				
372 496	Pipe	1	1.2				
372 520	Hose	2	0.3				
372 521	Screw	8	-				
372 221	Adapter nut	10	-				
372 222	Cutting ring	10	-				
372 264	Pipe clamp	6	0.2				
372 277	Pipe union	2	0.2				
372 522	Flange	2	0.4				
372 523	Flange	2	0.5				
372 524	Gasket	2	-				
372 525	Gasket	2	-				

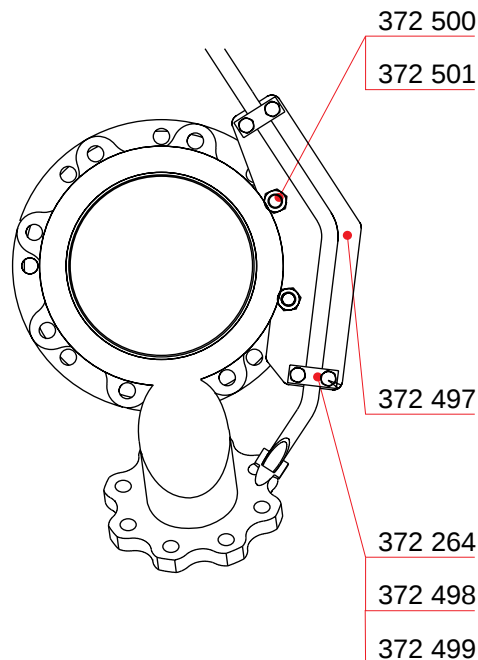
Edition: A
Page: 2(2)
Updated: 09.05.2003

Cleaning device for turbine

View A

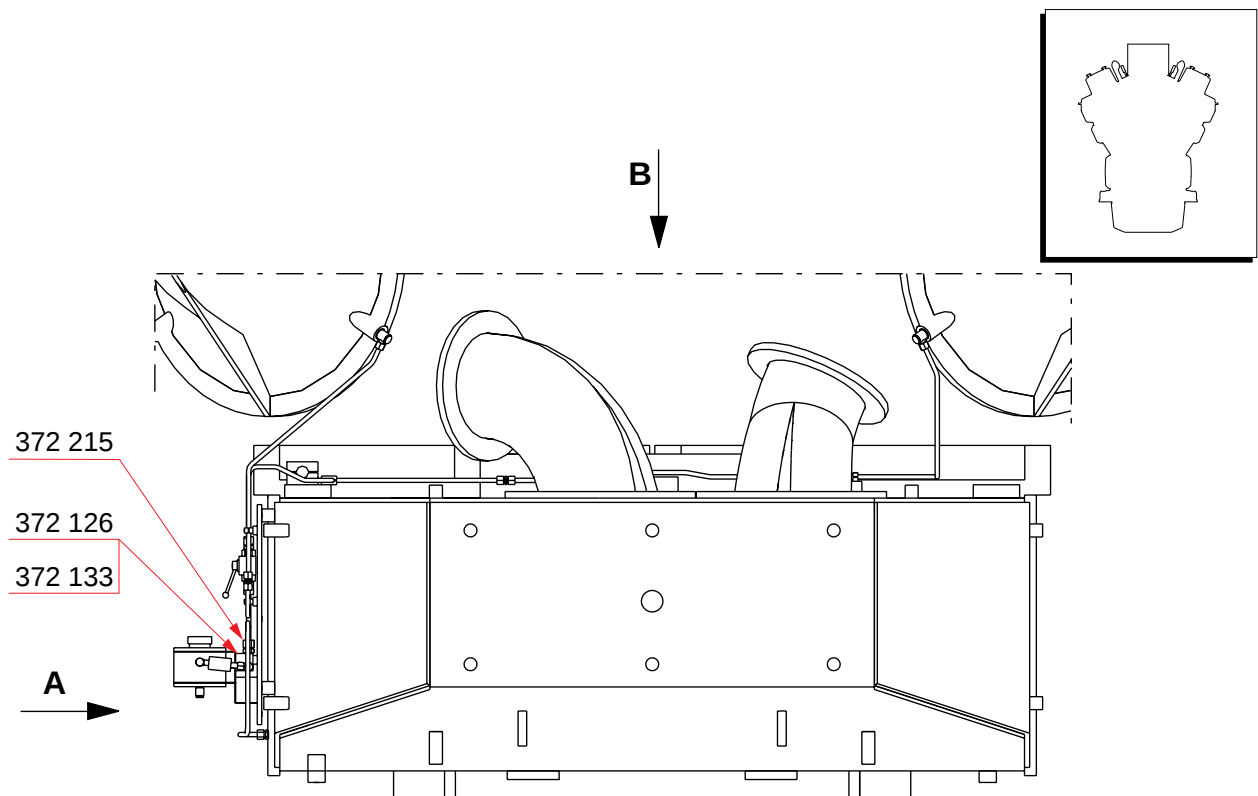


Section B-B



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
372 007	Connection piece	2	-	372 506	Distance sleeve	2	-
372 136	Valve	2	0.6				
372 145	Screw	8	-				
372 149	Pipe	1	-				
372 272	Pipe	2	-				
372 296	Screw	2	-				
372 498	Screw	8	-				
372 499	Nut	8	-				
372 500	Nut	4	-				
372 501	Screw	4	0.1				
372 505	Pipe	1	-				
372 144	Pipe clamp	4	0.4				
372 153	Pipe union	2	-				
372 221	Adapter nut	10	-				
372 222	Cutting ring	10	-				
372 260	Pipe union	2	0.2				
372 264	Pipe clamp	6	0.2				
372 295	Bracket	1	4.7				
372 497	Bracket	2	1.6				
372 502	Reduction union	2	0.1				
372 503	Pipe union	2	0.3				
372 504	Pipe union	4	0.1				

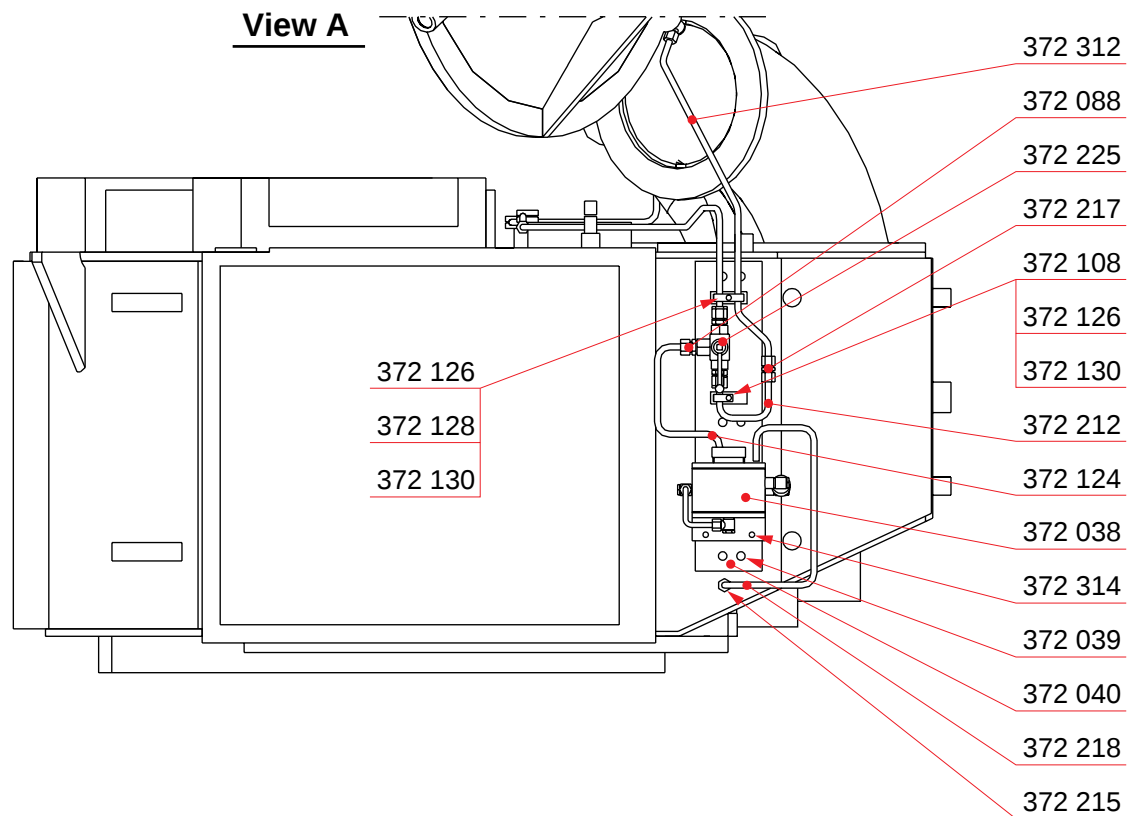
Cleaning device for compressor



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
372 126	Nut	4	-				
372 133	Screw	2	-				
372 215	Pipe union	3	-				

Edition: A
 Page: 2(3)
 Updated: 15.09.2003

Cleaning device for compressor

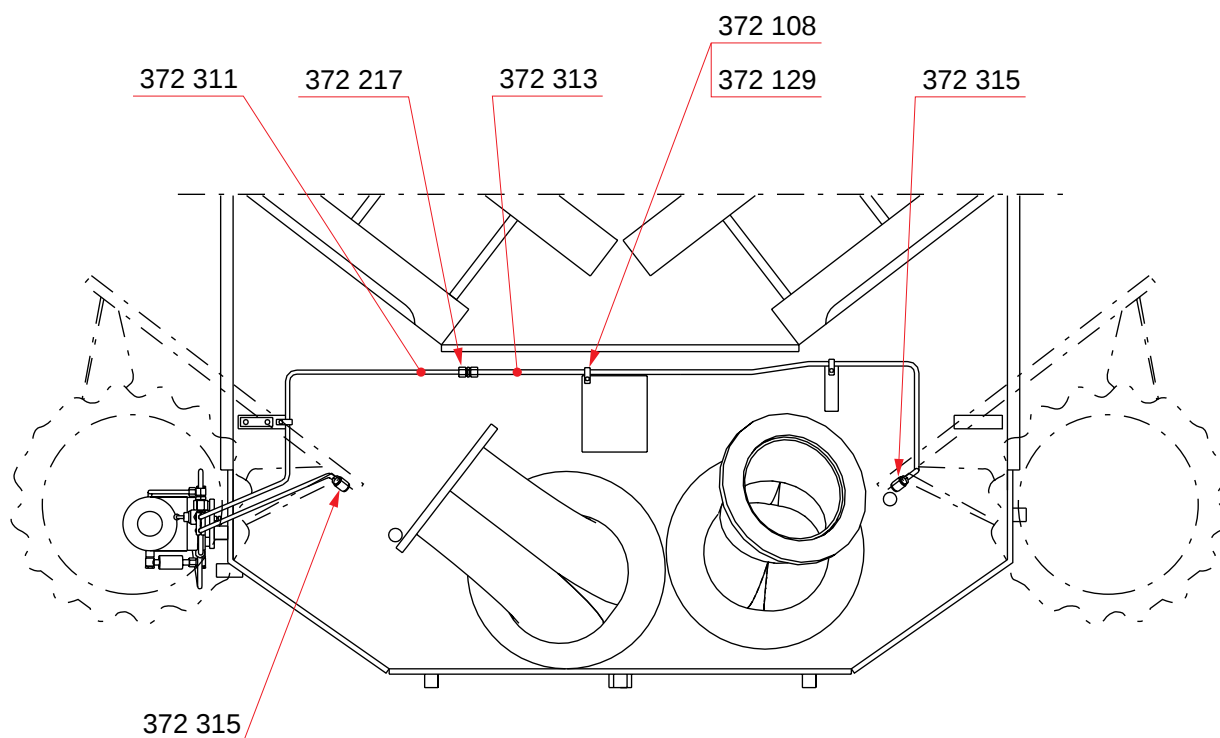


Part No.	Description	Qty [Pcs]	Wt. [Kg]
372 038	Water container	1	3.1
372 039	Screw	2	-
372 124	Pipe	1	0.3
372 126	Nut	4	-
372 130	Screw	2	-
372 212	Pipe	1	-
372 218	Pipe	1	-
372 225	Valve	1	0.6
372 312	Pipe	1	0.2
372 314	Screw	4	-
372 040	Bracket	1	5.3
372 088	Pipe union	3	-
372 108	Pipe clamp	4	-
372 128	Pipe clamp	1	0.7
372 215	Pipe union	3	-
372 217	Pipe union	2	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Cleaning device for compressor

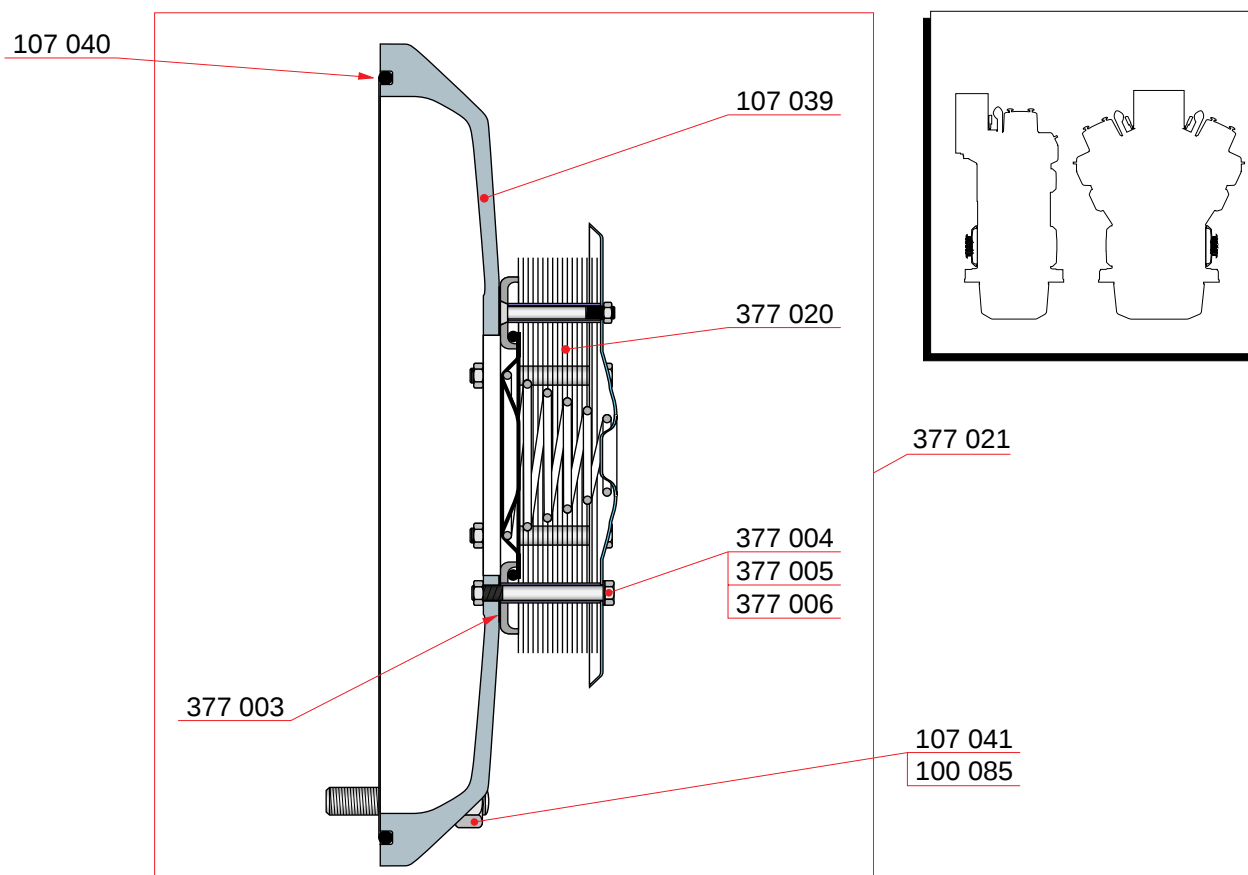
View B



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
372 108	Pipe clamp	4	-				
372 129	Screw	3	-				
372 311	Pipe	1	-				
372 313	Pipe	1	0.5				
372 217	Pipe union	2	-				
372 315	Pipe union	2	0.2				

This page is intentionally left blank.

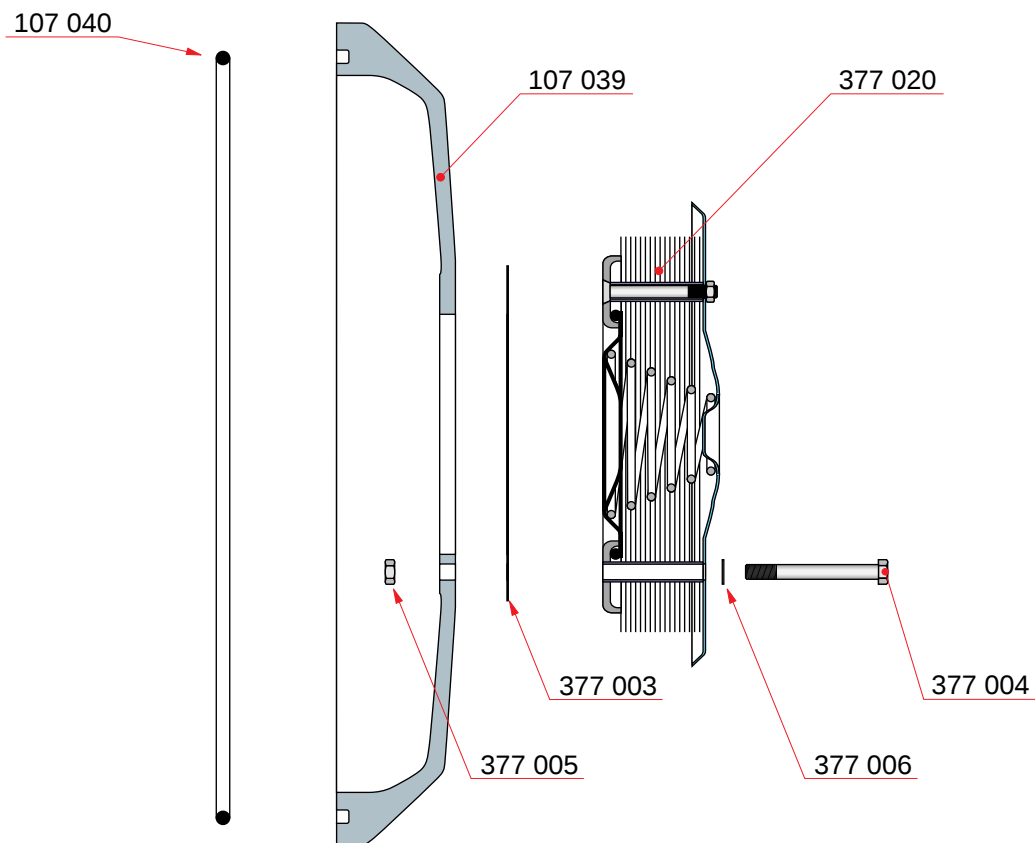
Crankcase cover with relief valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 085	Screw	4	-				
107 040	Gasket	1	-				
107 041	Nut	4	-				
377 021	Crankcase cover with relief valve	1	17.3				
107 039	Crankcase cover	1	10.0				
377 003	Gasket	1	-				
377 004	Screw	6	-				
377 005	Nut	6	-				
377 006	Washer	6	-				
377 020	Relief valve, compl.	1	5.6				

Edition: A
Page: 2(4)
Updated: 26.10.1993

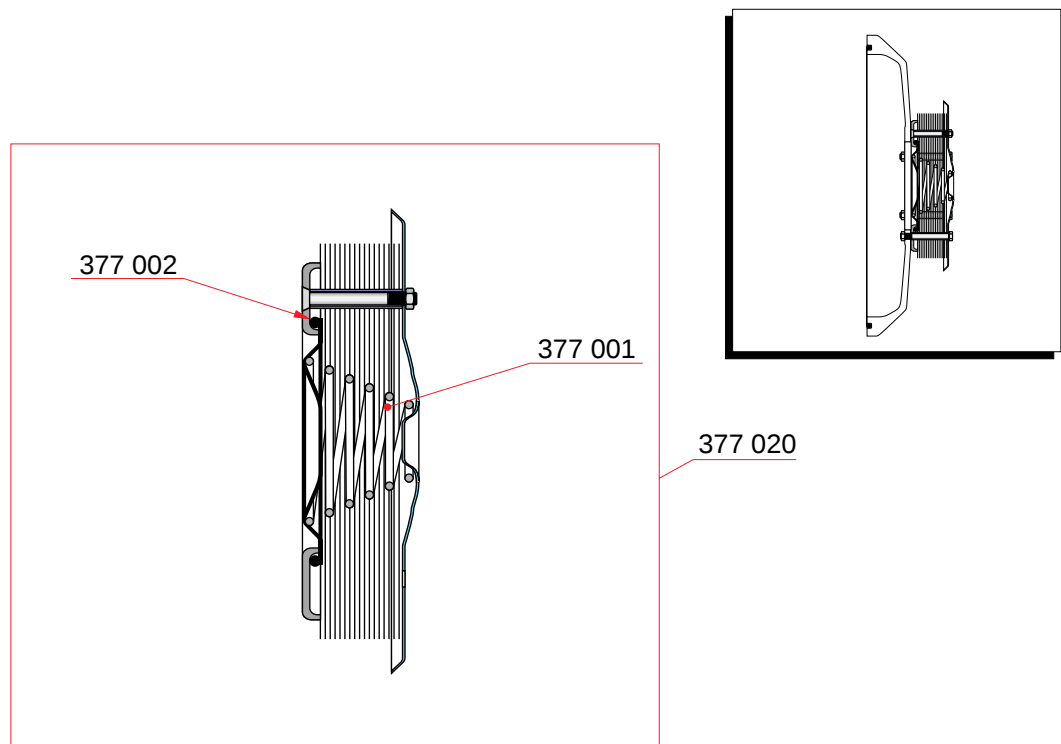
Crankcase cover with relief valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Crankcase cover with relief valve

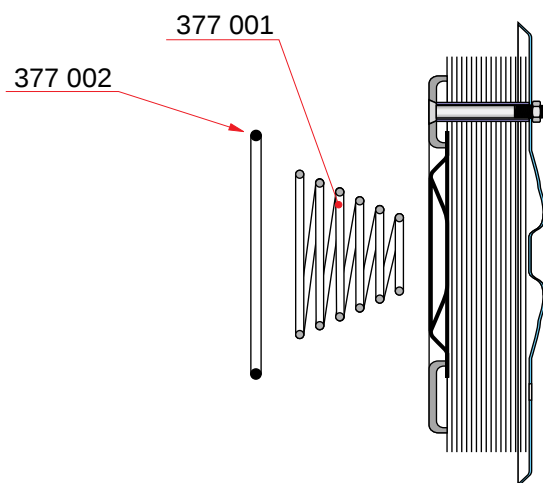


Part No.	Description	Qty [Pcs]	Wt. [Kg]
377 020	Relief valve, compl.	1	5.6
377 001	Spring	1	0.3
377 002	O-ring	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Edition: A
Page: 4(4)
Updated: 26.10.1993

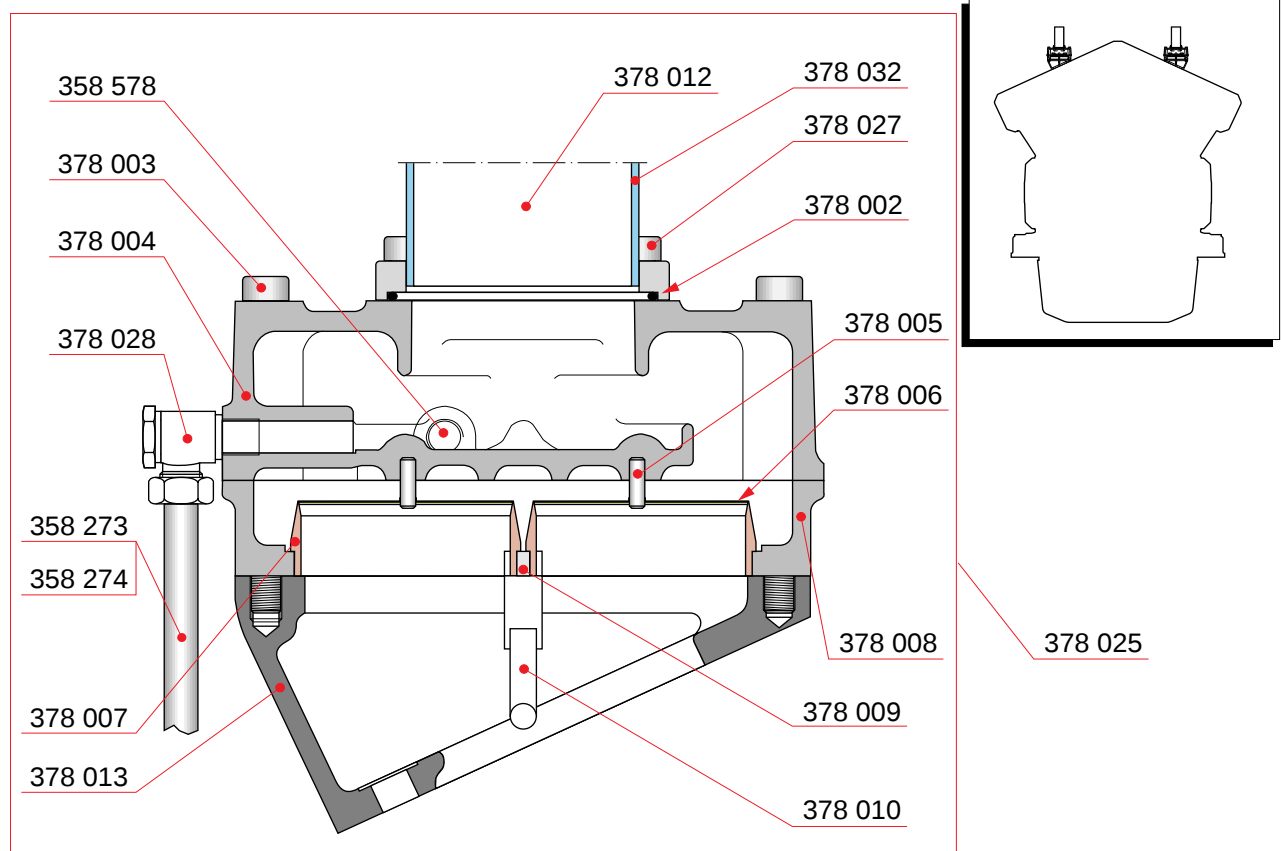
Crankcase cover with relief valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Crankcase breather

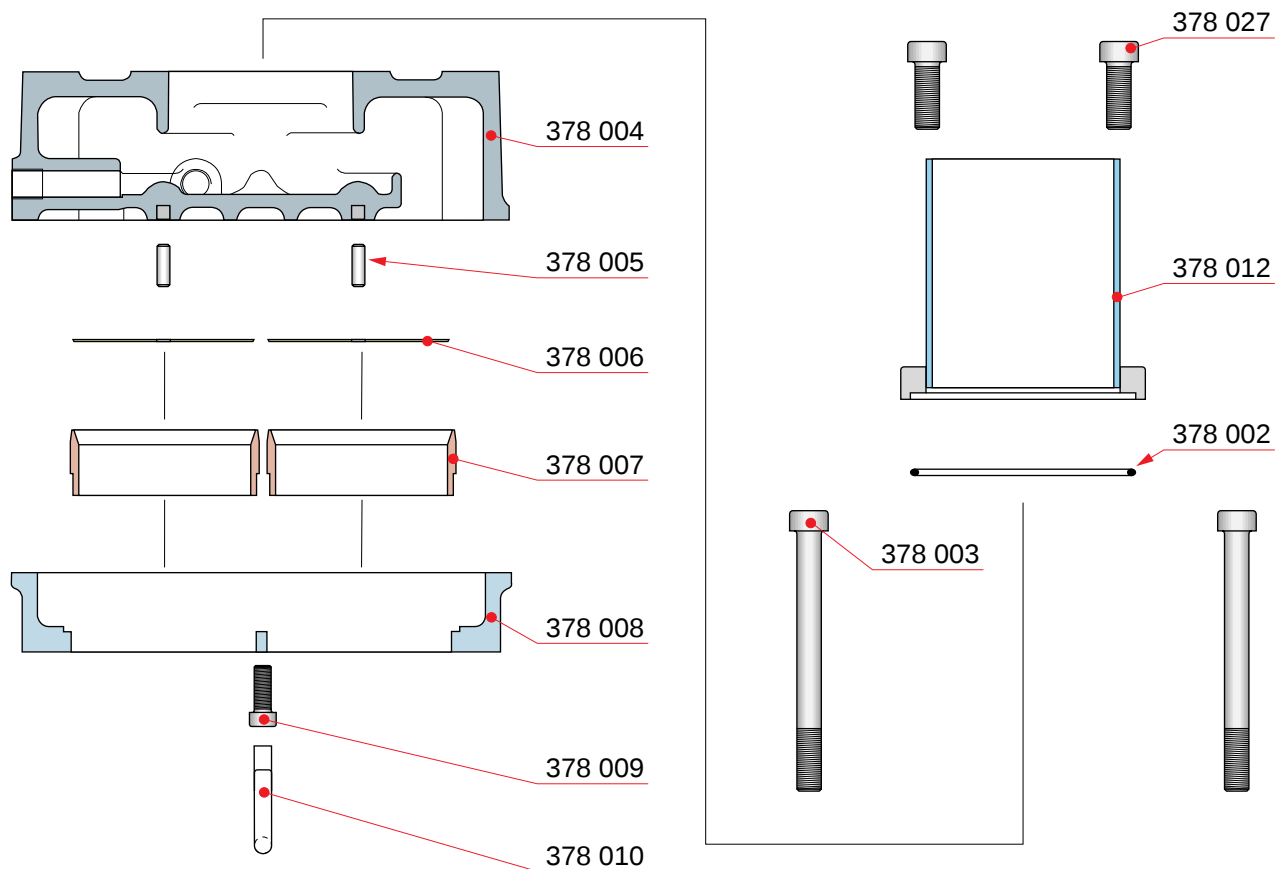


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
378 025	Breather, compl.	1	-				
358 273	Pipe (1)	1	-				
358 274	Pipe (2)	1	-				
358 578	Plug	2	-				
378 002	O-ring	2	-				
378 003	Screw	8	0.1				
378 004	Housing	2	5.4				
378 005	Pin	4	-				
378 006	Valve disc	4	-				
378 007	Valve seat	4	0.2				
378 008	Valve seat housing	2	3.6				
378 009	Screw	4	-				
378 010	Pipe	2	-				
378 012	Pipe	2	-				
378 013	Distance piece	2	-				
378 027	Screw	8	-				
378 028	Pipe union	2	-				
378 032	Clamp	8	-				

NOTE! (1) B-bank (2) A-bank

Edition: B
 Page: 2(2)
 Updated: 13.11.2001

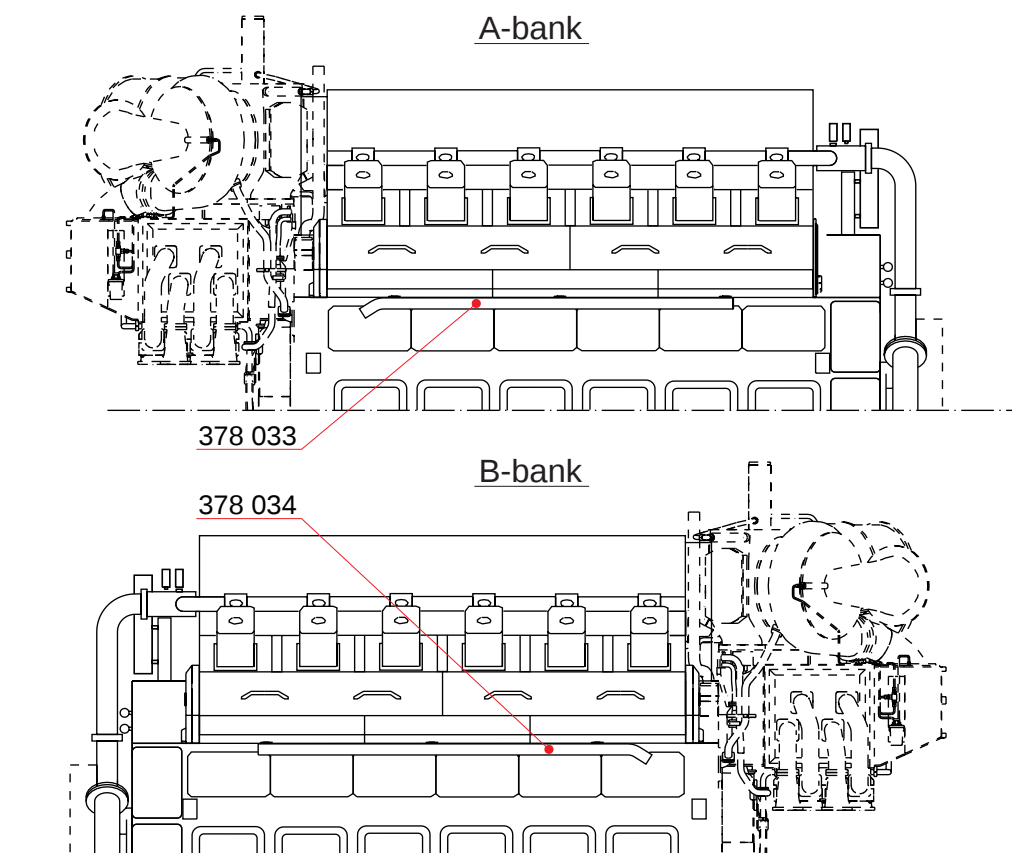
Crankcase breather



Part No.	Description	Qty [Pcs]	Wt. [Kg]
378 002	O-ring	2	-
378 003	Screw	8	0.1
378 004	Housing	2	5.4
378 005	Pin	4	-
378 006	Valve disc	4	-
378 007	Valve seat	4	0.2
378 008	Valve seat housing	2	3.6
378 009	Screw	4	-
378 010	Pipe	2	-
378 012	Pipe	2	-
378 027	Screw	8	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

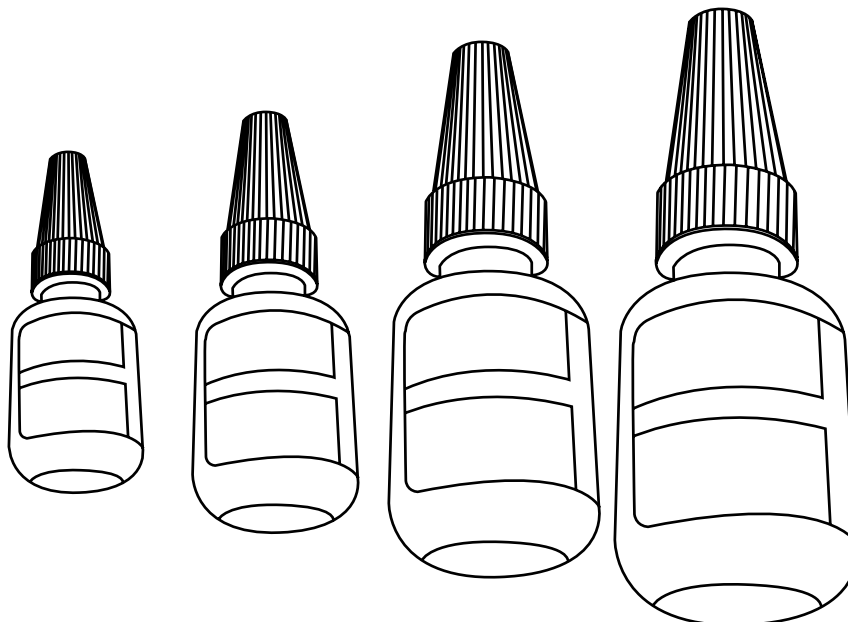
Ventilation pipes for Hot-box



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
378 033	Pipe	1	-				
378 034	Pipe	1	-				

This page is intentionally left blank.

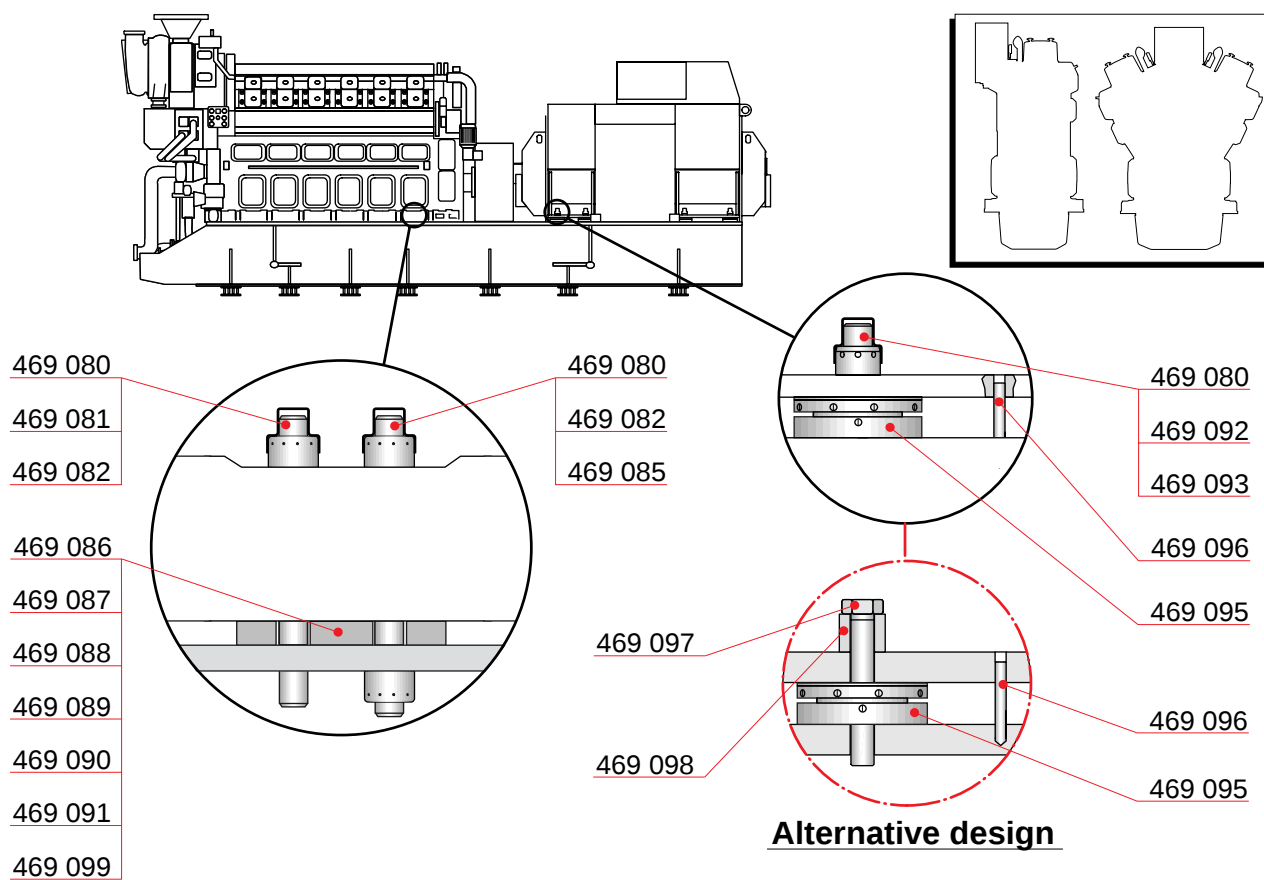
Glue compounds



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
387 001	Glue compound	1	-	387 023	Contact lubrication	1	-
387 002	Glue compound	1	-	387 024	Glue compound	1	0.3
387 003	Glue compound	1	-	387 025	Glue compound	1	0.4
387 004	Glue compound	1	-	387 026	Glue compound	1	-
387 005	Glue compound	1	-	387 027	Glue compound	1	0.3
387 006	Glue compound	1	0.1	387 028	Glue compound	1	-
387 007	Glue compound	1	-	387 029	Glue compound	1	0.1
387 008	Glue compound	1	0.5	387 030	Glue compound	1	-
387 009	Glue compound	1	-	387 031	Glue compound	1	-
387 010	Glue compound	1	0.3	387 032	Contact lubrication	1	0.2
387 011	Glue compound	1	-	387 033	Glue compound	1	-
387 012	Glue compound	1	0.2	387 034	Glue compound	1	-
387 013	Glue compound	1	0.2	387 035	Glue compound	1	-
387 014	Glue compound	1	0.5				
387 015	Glue compound	1	0.1	NOTE!	When ordering glue compounds, use spare part numbers that mentioned in sections.		
387 016	Glue compound	1	0.5				
387 017	Glue compound	1	-				
387 018	Glue compound	1	-				
387 019	Glue compound	1	0.5				
387 020	Glue compound	1	-				
387 021	Contact lubrication	1	0.2				
387 022	Contact lubrication	1	-				

This page is intentionally left blank.

Fastening of engine and generator



Part No.	Description	Qty [Pcs]	Wt. [Kg]
469 080	Cover	*	-
469 081	Screw	*	2.7
469 082	Nut	*	0.7
469 085	Screw	2	3.4
469 086	Plate (1)	2	4.0
469 087	Plate (1)	2	8.2
469 088	Plate (1)	*	3.5
469 089	Plate (1)	*	7.2
469 090	Plate (1)	*	3.5
469 091	Plate (1)	*	3.5
469 092	Screw	8	2.2
469 093	Nut	8	0.7
469 095	Fixing piece	8	11.9
469 096	Taper pin (2)	2	0.2
469 097	Screw	8	-
469 098	Washer	8	-
469 099	Plate (1)	*	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

NOTE! * See page 3

NOTE! (1) See page 2 (2) Depending on installation

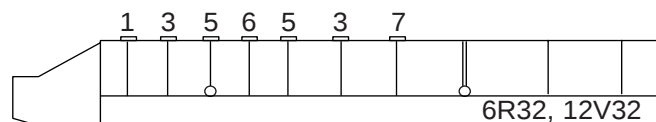
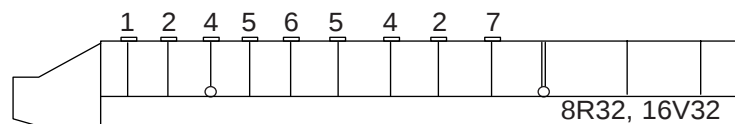
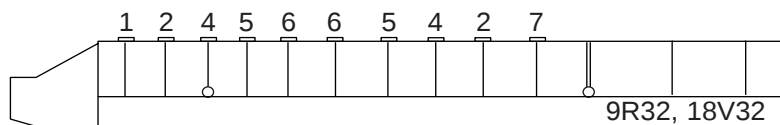
Edition: B

Page: 2(3)

Updated: 28.05.2003

Fastening of engine and generator

	CODE	DEVIATION	T
1	469 086	0	30.60
2	469 088	-0.05	30.55
3	469 099	-0.07	30.53
4	469 089	-0.10	30.50
5	469 090	-0.15	30.45
6	469 091	-0.20	30.40
7	469 087	0	30.60



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

Fastening of engine and generator

Quantity according to number of cylinders						
Part No	6R32	8R32	9R32	12V32	16V32	18V32/34
469 080	28	36	40	36/28*	44/36*	48/40*
469 081	26	34	38	26	34	38
469 082	30	38	42	30	38	42
469 088	-	4	4	-	4	4
469 089	-	4	4	-	4	4
469 090	4	4	4	4	4	4
469 091	2	2	4	2	2	4
469 099	4	-	-	4	-	-

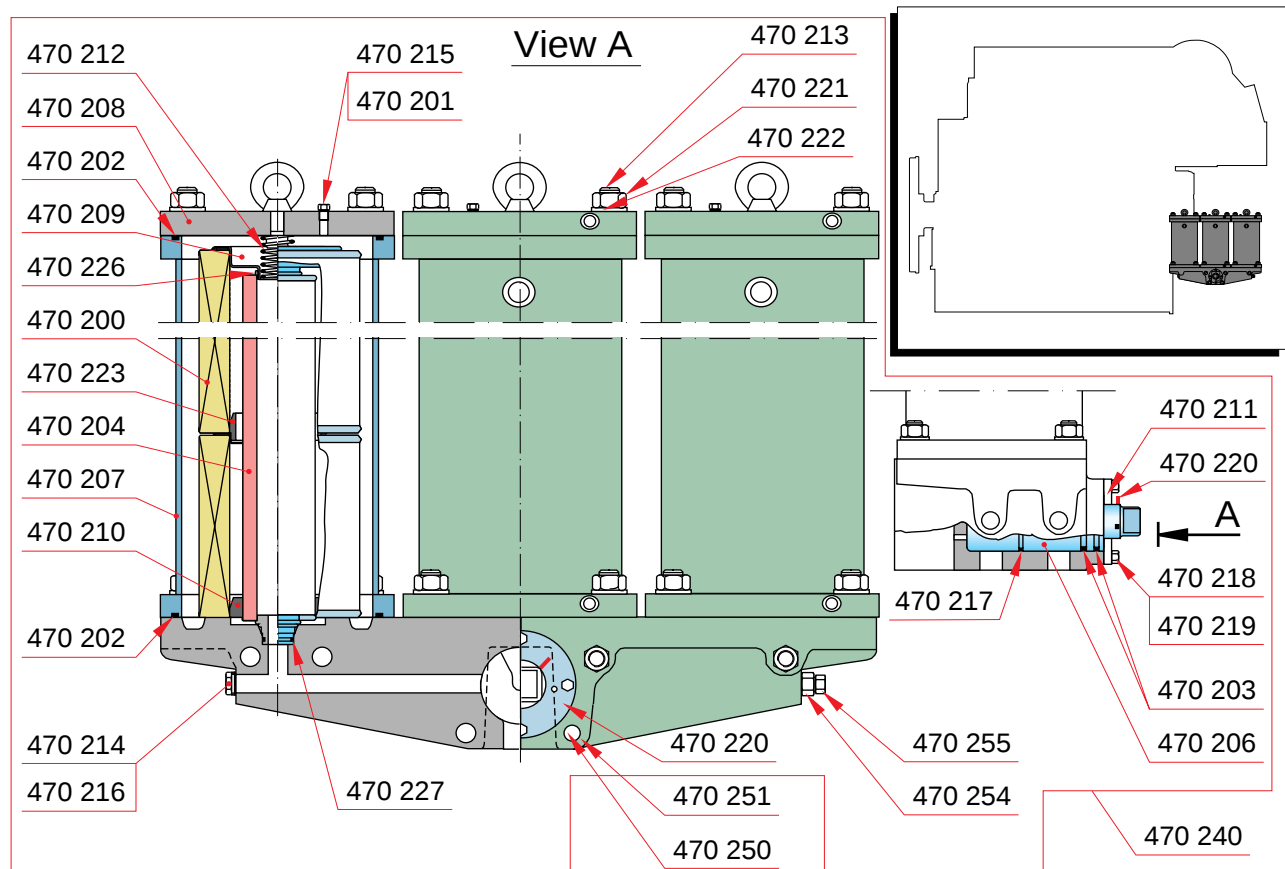
* ALTERNATIVE DESIGN

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

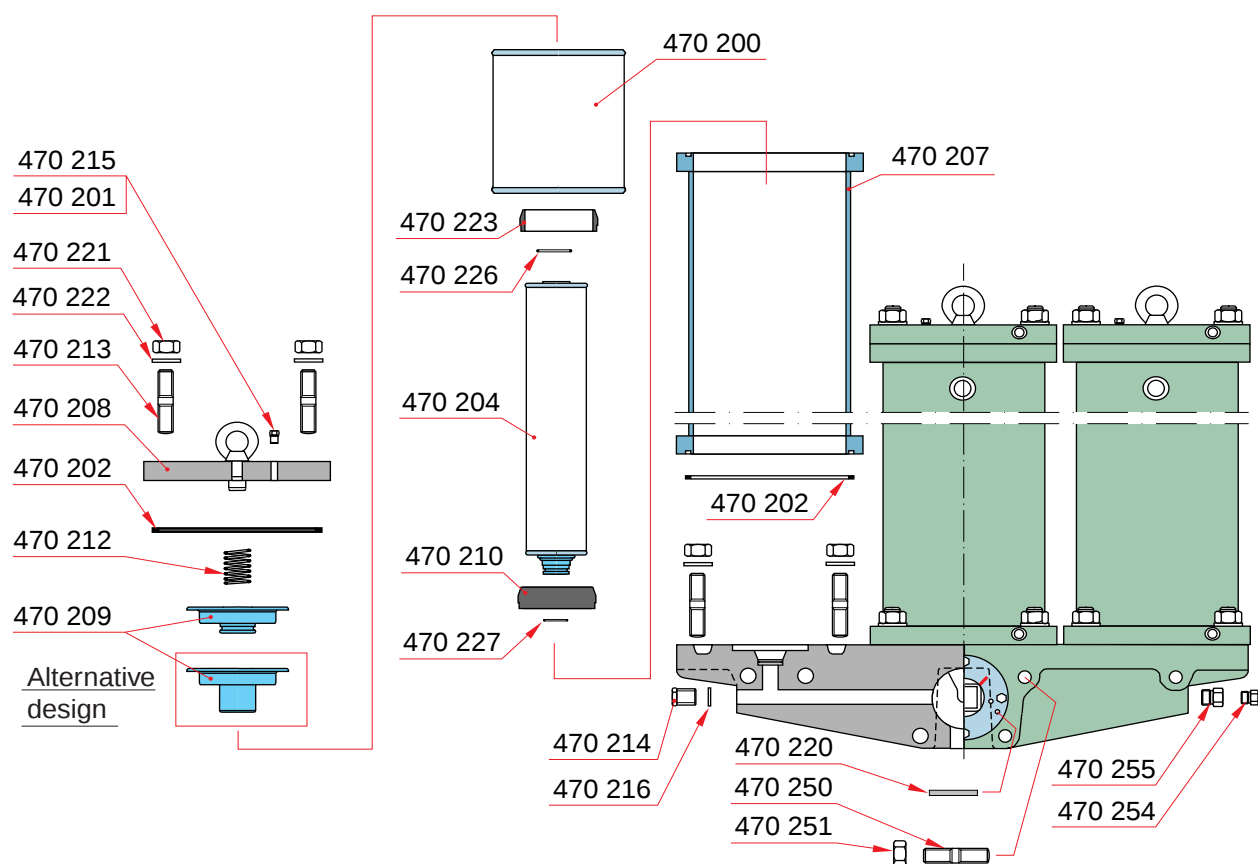
Fuel filter



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
470 240	Fuel filter, complete	1	130	470 254	Reduce part	2	-
470 200	Filter cartridge	*	1.6	470 255	Plug	2	-
470 201	O-ring	3	-	470 250	Screw	4	-
470 202	O-ring	6	-	470 251	Nut	6	-
470 203	O-ring	2	-				
470 204	Safety filter	*	2.5				
470 206	Valve stem	1	3.9	NOTE!	(1) See page 4		
470 207	Container	*	1.0	NOTE!	* See page 5		
470 208	Cover	*	12.0				
470 209	Upper cover	*	0.3				
470 210	Cartridge guide	*	0.3				
470 211	Valve cover	1	0.6				
470 212	Compression spring	*	-				
470 213	Screw	*	0.2				
470 214	Plug	*	-				
470 215	Plug	*	-				
470 216	Gasket	5	-				
470 217	O-ring	1	-				
470 218	Screw	4	-				
470 219	Washer	4	-				
470 220	Spring pin	4	-				
470 221	Nut	*	-				
470 222	Washer	*	-				
470 223	Distance guide	*	0.2				
470 226	O-ring	3	-				
470 227	O-ring	3	-				
470 241	Sealing set (1)	1	-				

Edition: H
 Page: 2(5)
 Updated: 26.01.2001

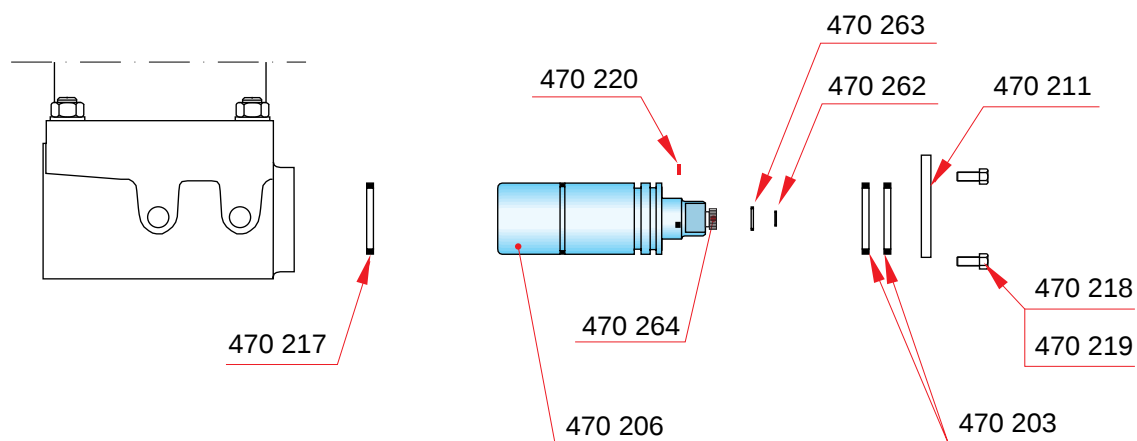
Fuel filter



Part No.	Description	Qty [Pcs]	Wt. [Kg]
470 200	Filter cartridge	9	1.6
470 201	O-ring	3	-
470 202	O-ring	6	-
470 204	Safety filter	3	2.5
470 207	Container	3	1.0
470 208	Cover	3	12.0
470 209	Upper cover	3	0.3
470 210	Cartridge guide	3	0.3
470 212	Compression spring	3	-
470 213	Screw	24	0.2
470 214	Plug	5	-
470 215	Plug	3	-
470 216	Gasket	5	-
470 220	Spring pin	4	-
470 221	Nut	24	-
470 222	Washer	24	-
470 223	Distance guide	6	0.2
470 226	O-ring	3	-
470 227	O-ring	3	-
470 250	Screw		-
470 251	Nut		-
470 254	Reduce part	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
470 255	Plug	1	-

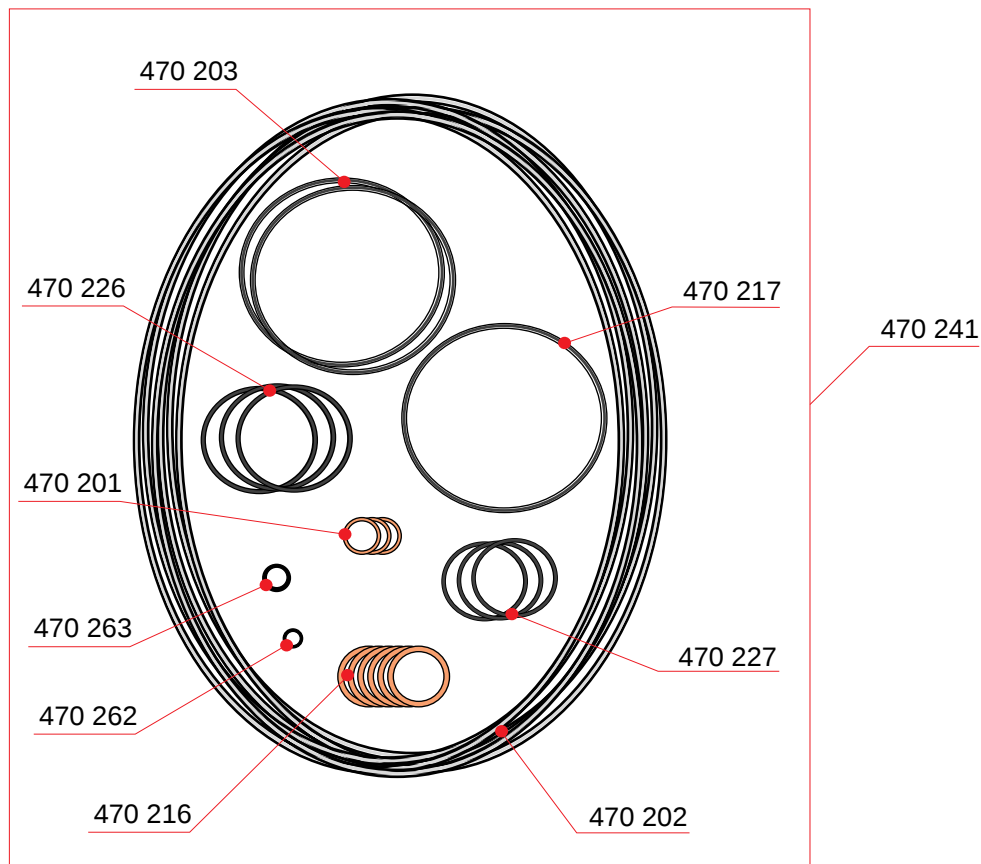
Fuel filter



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
470 203	O-ring	2	-				
470 206	Valve stem	1	3.9				
470 211	Valve cover	1	0.6				
470 217	O-ring	1	-				
470 218	Screw	4	-				
470 219	Washer	4	-				
470 220	Spring pin	4	-				
470 264	Valve	1	0.1				
470 262	O-ring	1	-				
470 263	O-ring	1	-				

Edition: H
 Page: 4(5)
 Updated: 26.01.2001

Fuel filter



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
470 241	Sealing set	1	-				
470 201	O-ring	3	-				
470 202	O-ring	6	-				
470 203	O-ring	2	-				
470 216	Gasket	5	-				
470 217	O-ring	1	-				
470 226	O-ring	3	-				
470 227	O-ring	3	-				
470 262	O-ring	1	-				
470 263	O-ring	1	-				

Fuel filter

Quantity according to number of cylinders

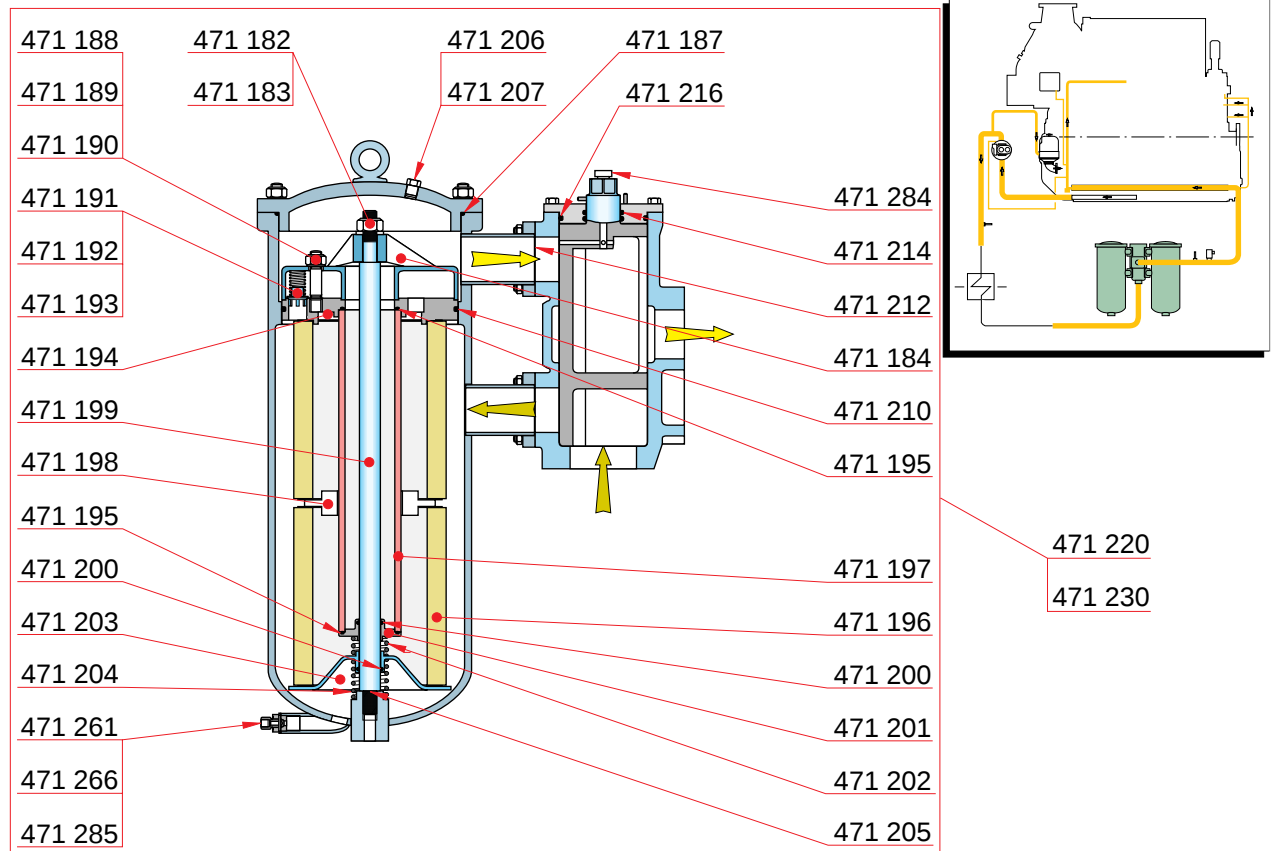
Part No	Pieces						
	4R32	6R32	8R32	9R32	12V32	16V32	18V32
470 200	2	4	4	4	6	9	9
470 204	2	2	2	2	2	3	3
470 207	2	2	2	2	2	3	3
470 208	2	2	2	2	2	3	3
470 209	2	2	2	2	2	3	3
470 210	2	2	2	2	2	3	3
470 212	2	2	2	2	2	3	3
470 213	16	16	16	16	16	24	24
470 214	4	4	4	4	4	5	5
470 215	2	2	2	2	2	3	3
470 221	16	16	16	16	16	24	24
470 222	16	16	16	16	16	24	24
470 223	-	2	2	2	4	6	6

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

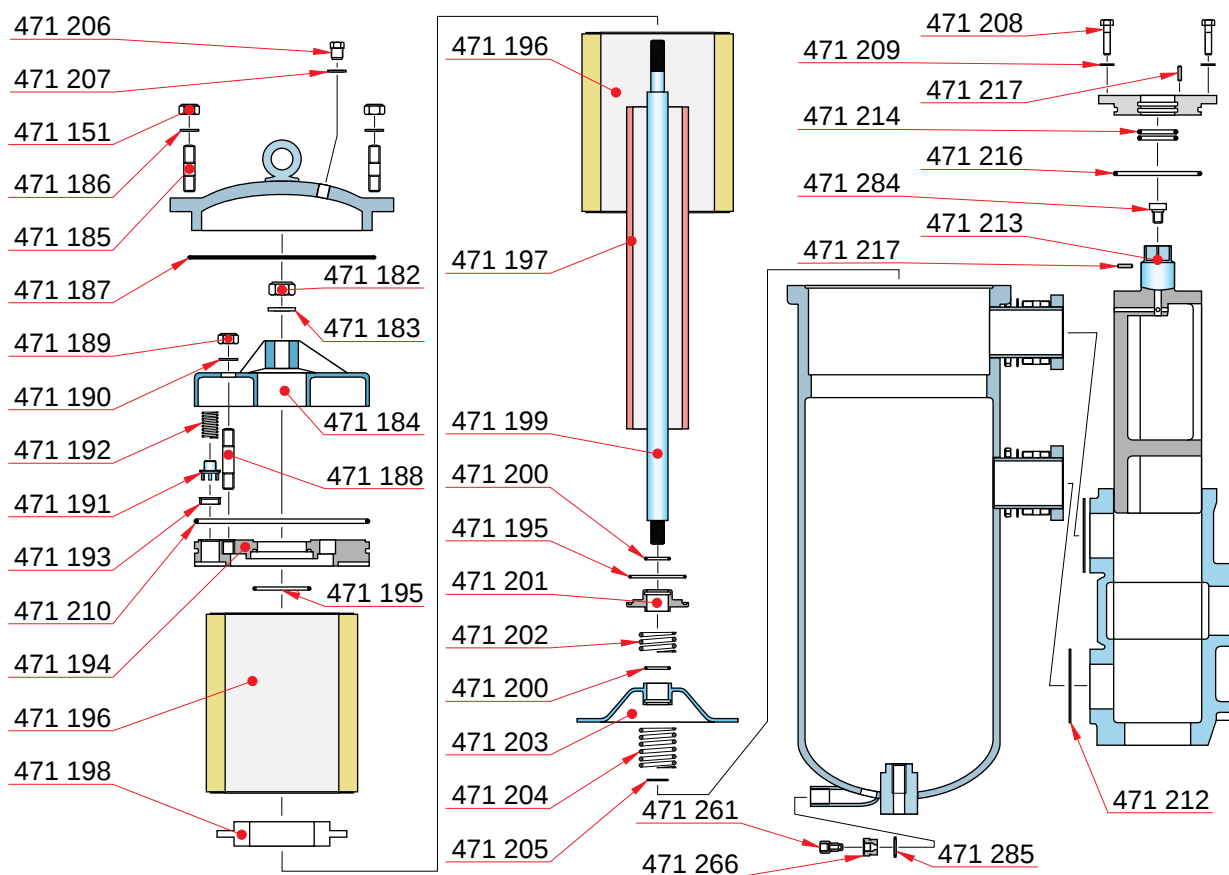
Lubricating oil filter V32/V34



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
471 220	Lubricating oil filter	*	-	471 212	Gasket	8	-
471 230	Lubricating oil filter	*	-	471 214	O-ring	2	-
471 182	Self-locking nut	*	-	471 216	O-ring	1	-
471 183	Washer	*	-	471 261	Plug	*	-
471 184	Bracket	*	3.2	471 266	Reduce part	*	-
471 187	O-ring	4	-	471 284	Filling valve	1	0.1
471 188	Screw	*	-	471 285	Gasket	*	-
471 189	Self-locking nut	*	-	471 235	Sealing set	1	0.6
471 190	Washer	*	-	NOTE! * See page 5			
471 191	By-pass valve seat	*	-				
471 192	Spring	*	-				
471 193	By-pass valve bush	*	-				
471 194	Bracket	*	2.0				
471 195	O-ring	8	-				
471 196	Filter insert	*	3.9				
471 197	Safety filter	*	1.5				
471 198	Cartridge guide	*	0.3				
471 199	Center rod	*	3.5				
471 200	O-ring	8	-				
471 201	Flange	*	0.6				
471 202	Compression spring	*	-				
471 203	Flange	*	1.1				
471 204	Compression spring	*	0.3				
471 205	Sealing ring	4	-				
471 206	Air vent screw	*	-				
471 207	Sealing ring	4	-				
471 210	O-ring	4	-				

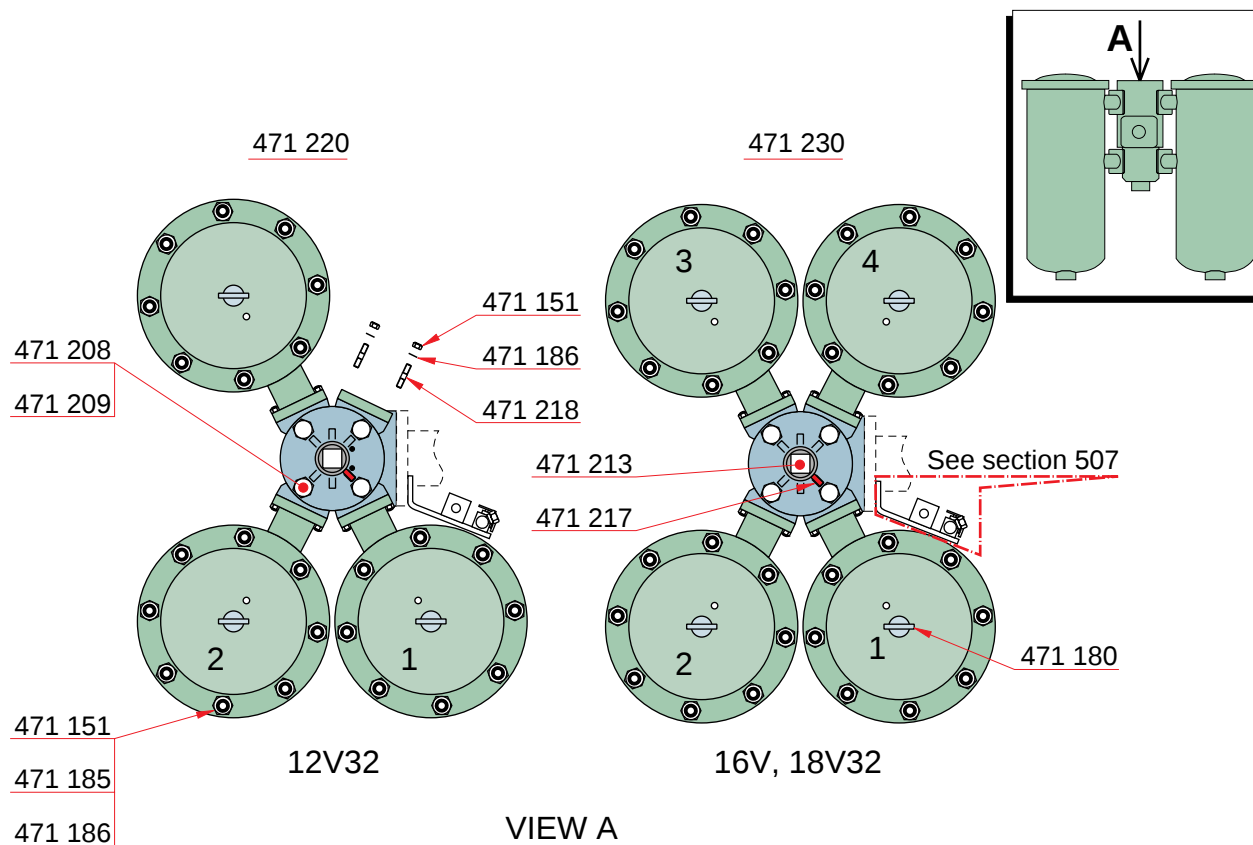
Edition: B
Page: 2(5)
Updated: 12.01.2000

Lubricating oil filter V32/V34



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
471 151	Nut	*	-	471 203	Flange	*	1.1
471 182	Self-locking nut	*	-	471 204	Compression spring	*	0.3
471 183	Washer	*	-	471 205	Sealing ring	4	-
471 184	Bracket	*	3.2	471 206	Air vent screw	*	-
471 185	Screw	*	-	471 207	Sealing ring	4	-
471 186	Spring washer	*	-	471 208	Screw	4	-
471 187	O-ring	4	-	471 209	Spring washer	4	-
471 188	Screw	*	-	471 210	O-ring	4	-
471 189	Self-locking nut	*	-	471 212	Gasket	8	-
471 190	Washer	*	-	471 213	Valve stem	1	8.5
471 191	By-pass valve seat	*	-	471 214	O-ring	2	-
471 192	Spring	*	-	471 216	O-ring	1	-
471 193	By-pass valve bush	*	-	471 217	Spring pin	4	-
471 194	Bracket	*	2.0	471 261	Plug	*	-
471 195	O-ring	8	-	471 266	Reduce part	*	-
471 196	Filter insert	*	3.9	471 284	Filling valve	1	0.1
471 197	Safety filter	*	1.5	471 285	Gasket	*	-
471 198	Cartridge guide	*	0.3				
471 199	Center rod	*	3.5	NOTE!	* See page 5		
471 200	O-ring	8	-				
471 201	Flange	*	0.6				
471 202	Compression spring	*	-				

Lubricating oil filter V32/V34

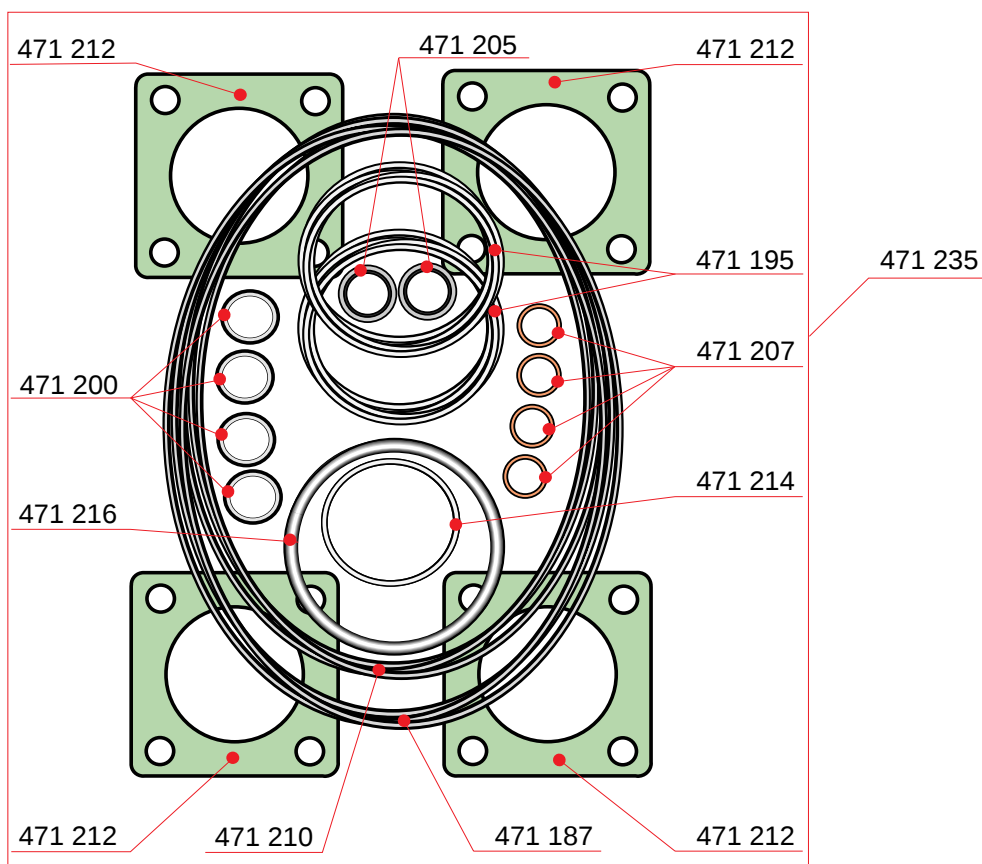


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
471 151	Nut	*	-				
471 180	Eye bolt nut	*	0.2				
471 185	Screw	*	-				
471 186	Spring washer	*	-				
471 208	Screw	4	-				
471 209	Spring washer	4	-				
471 213	Valve stem	1	8.5				
471 217	Spring pin	4	-				
471 218	Screw	16	-				

NOTE! * See page 5

Edition: B
 Page: 4(5)
 Updated: 12.01.2000

Lubricating oil filter V32/V34



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
471 235	Sealing set	1	0.6				
471 187	O-ring	4	-				
471 195	O-ring	8	-				
471 200	O-ring	8	-				
471 205	Sealing ring	4	-				
471 207	Sealing ring	4	-				
471 210	O-ring	4	-				
471 212	Gasket	8	-				
471 214	O-ring	2	-				
471 216	O-ring	1	-				

Lubricating oil filter V32/V34

Quantity according to number of cylinders

Part No	Pieces		Part No	Pieces	
	12V32	16V32/18V32		12V32	16V32/18V32
471 151	40	48	(1) 471 196	6	8
471 180	3	4	471 197	3	4
471 182	3	4	471 198	3	4
471 183	3	4	471 199	3	4
471 184	3	4	471 201	3	4
471 185	24	32	471 202	3	4
471 186	40	48	471 203	3	4
471 188	9	12	471 204	3	4
471 189	9	12	471 206	3	4
471 190	9	12	471 220	1	-
471 191	9	12	471 230	-	1
471 192	9	12	471 261	3	4
471 193	9	12	471 266	3	4
471 194	3	4	471 285	6	8

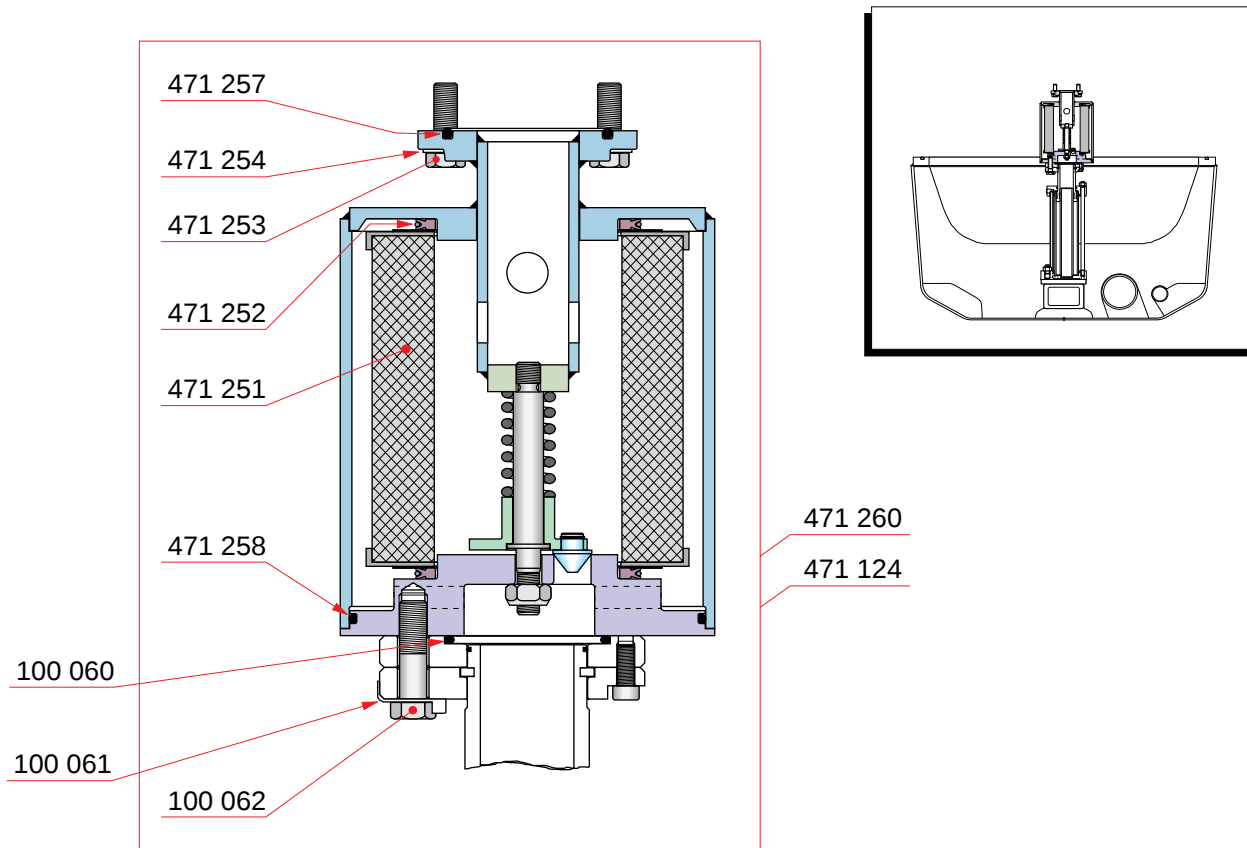
(1) Recommended order amount is at least 12 pcs = 1 package.

Note! 12 packages (72 pcs) = 1 pallet.

Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------	----------	-------------	--------------	-------------

This page is intentionally left blank.

Running-in filter



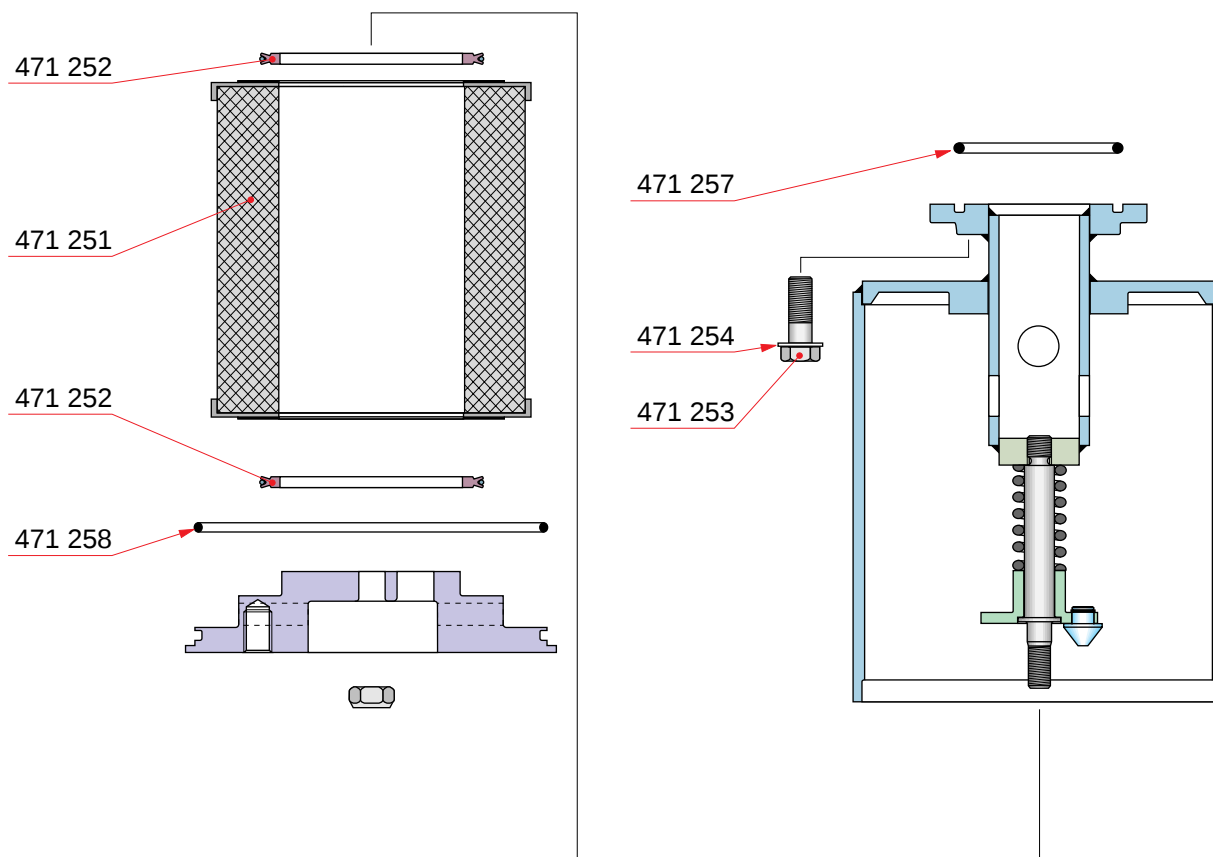
Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
471 124	Running-in filter (1)	*	-				
471 260	Running-in filter	*	15.5				
100 062	Screw	4	-				
471 251	Filter cartridge	1	0.7				
471 252	Sealing ring	2	-				
471 253	Screw	4	-				
471 254	Securing plate	4	-				
471 257	O-ring	1	-				
471 258	O-ring	1	-				
100 060	O-ring	*	-				
100 061	Tab washer	*	-				

NOTE! (1) Part No 471 124 is used only in
4R32

NOTE! * See page 3

Edition: C
 Page: 2(3)
 Updated: 13.04.2004

Running-in filter



Part No.	Description	Qty [Pcs]	Wt. [Kg]
471 251	Filter cartridge	1	0.7
471 252	Sealing ring	2	-
471 253	Screw	4	-
471 254	Securing plate	4	-
471 257	O-ring	1	-
471 258	O-ring	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Running-in filter

Quantity according to number of cylinders

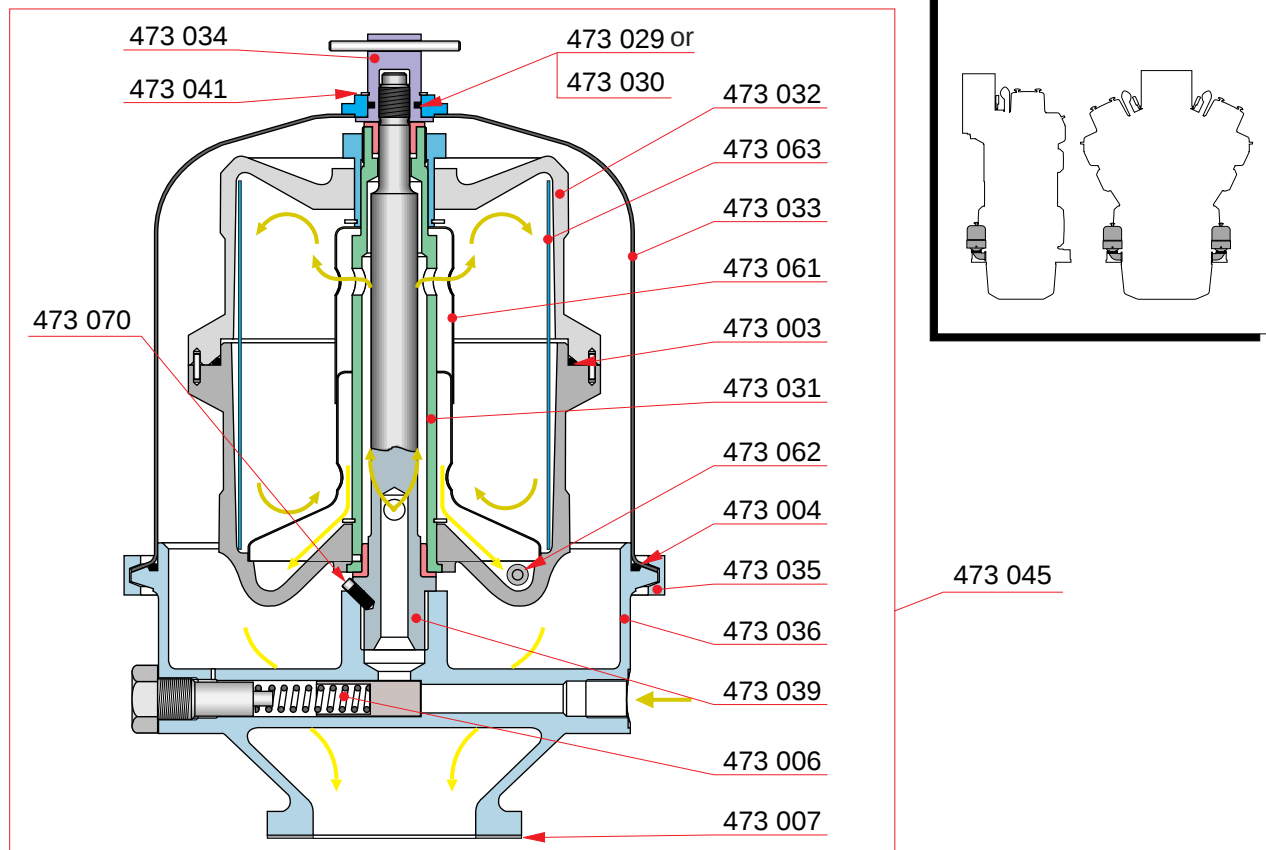
Part No	Pieces						
	4R32	6R32	8R32	9R32	12V32	16V32	18V32
100 060	5	7	9	10	7	9	10
100 061	24	32	40	44	32	40	44
471 124	1	-	-	-	-	-	-
471 260	4	7	9	10	7	9	10

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Centrifugal filter



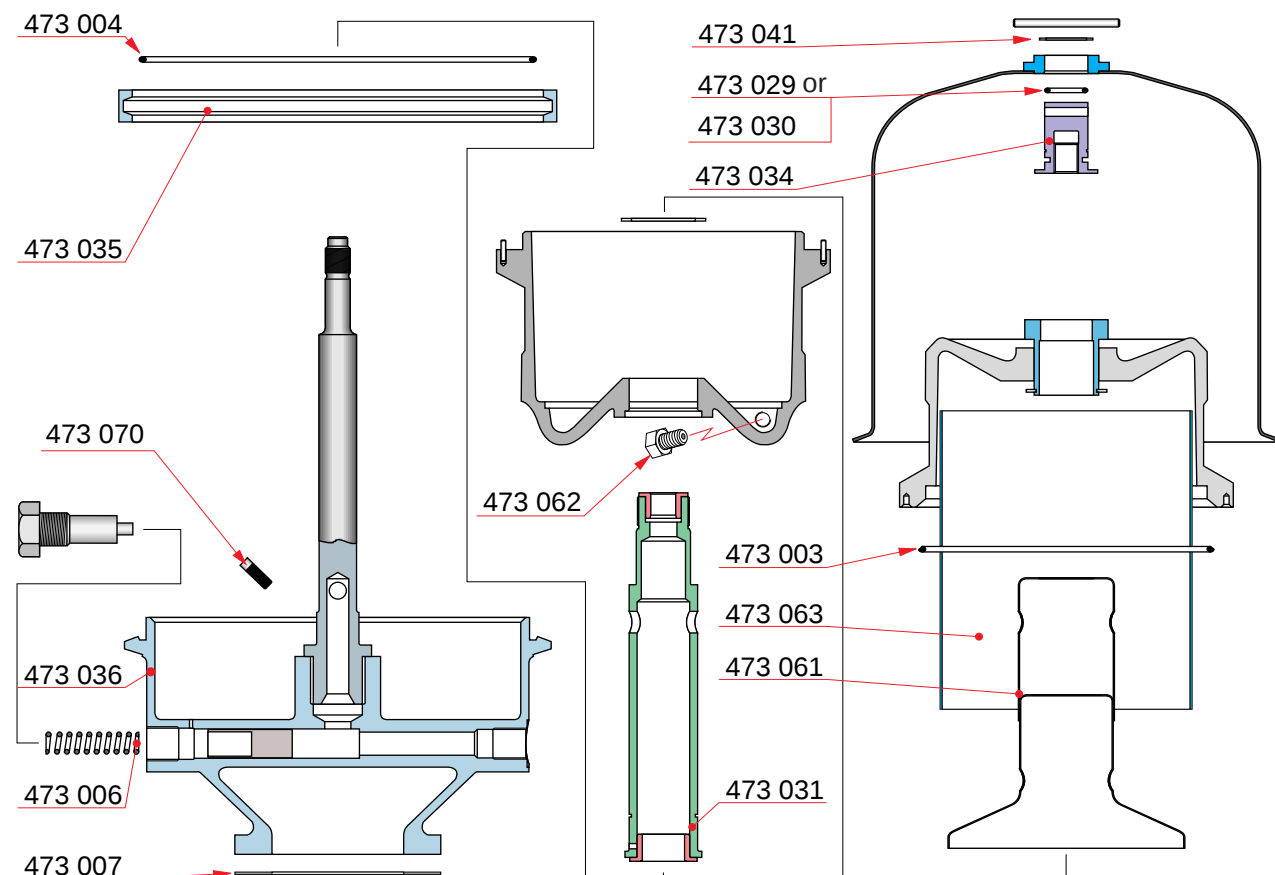
Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
473 045	Centrifugal filter, compl.	1	-				
473 032	Rotor, compl.	1	14.0				
473 003	O-ring	1	-				
473 031	Bearing assembly, compl.	1	1.7				
473 061	Pipe	1	0.5				
473 062	Nozzle	2	0.8				
473 033	Cover, complete	1	3.2				
473 029	O-ring *	1	-				
473 030	O-ring **	1	-				
473 034	Nut	1	0.1				
473 035	Cover clamp ring	1	-				
473 041	Circlip	1	-				
473 036	Body, compl.	1	-				
473 004	O-ring	1	-				
473 006	Spring	1	-				
473 007	Gasket	1	-				
473 039	Spindle (1)	1	-				
473 070	Screw	1	-				
473 063	Cartridge	1	-				

NOTE! (*) used in model GF600-5. (**) used in model GF600-18.

NOTE! (1) Part No marked (1) can not be ordered separately.

Edition: G
 Page: 2(3)
 Updated: 21.05.2004

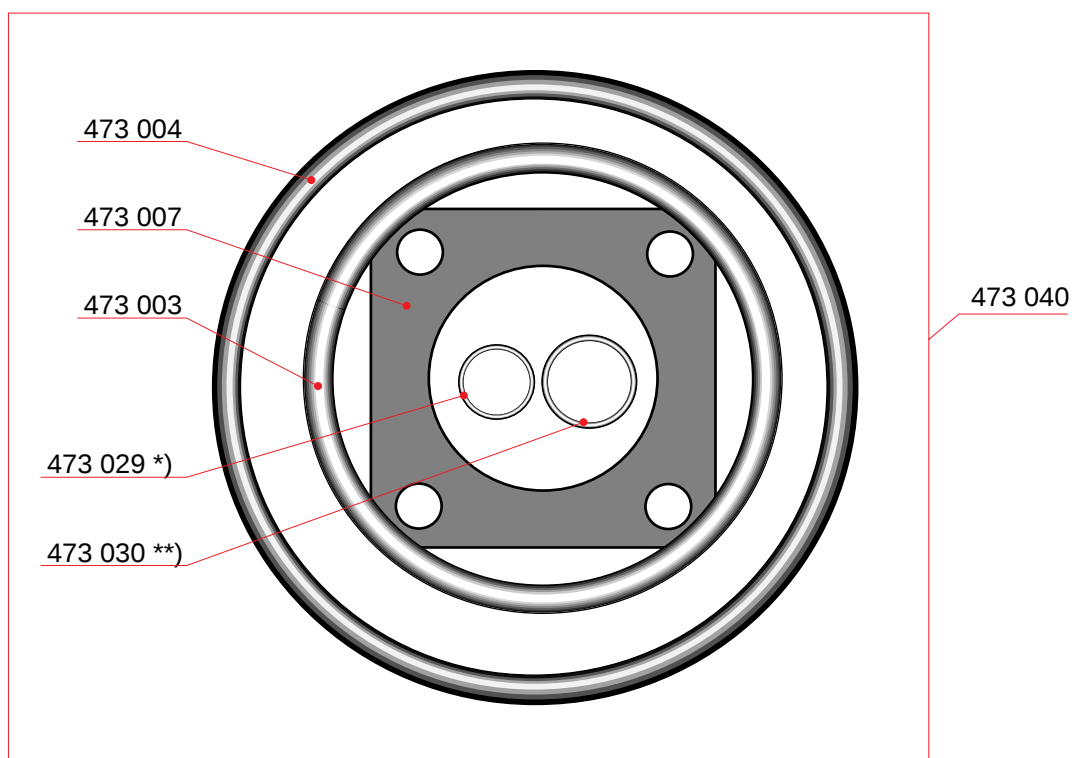
Centrifugal filter



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
473 003	O-ring	1	-				
473 004	O-ring	1	-				
473 006	Spring	1	-				
473 007	Gasket	1	-				
473 029	O-ring *	1	-				
473 030	O-ring **	1	-				
473 031	Bearing assembly, compl.	1	1.7				
473 034	Nut	1	0.1				
473 035	Cover clamp ring	1	-				
473 036	Body, compl.	1	-				
473 041	Circlip	1	-				
473 061	Pipe	1	0.5				
473 062	Nozzle	2	0.8				
473 063	Cartridge	1	-				
473 070	Screw	1	-				

NOTE! (*) used in model GF600-5. (**) used in model GF600-18.

Centrifugal filter

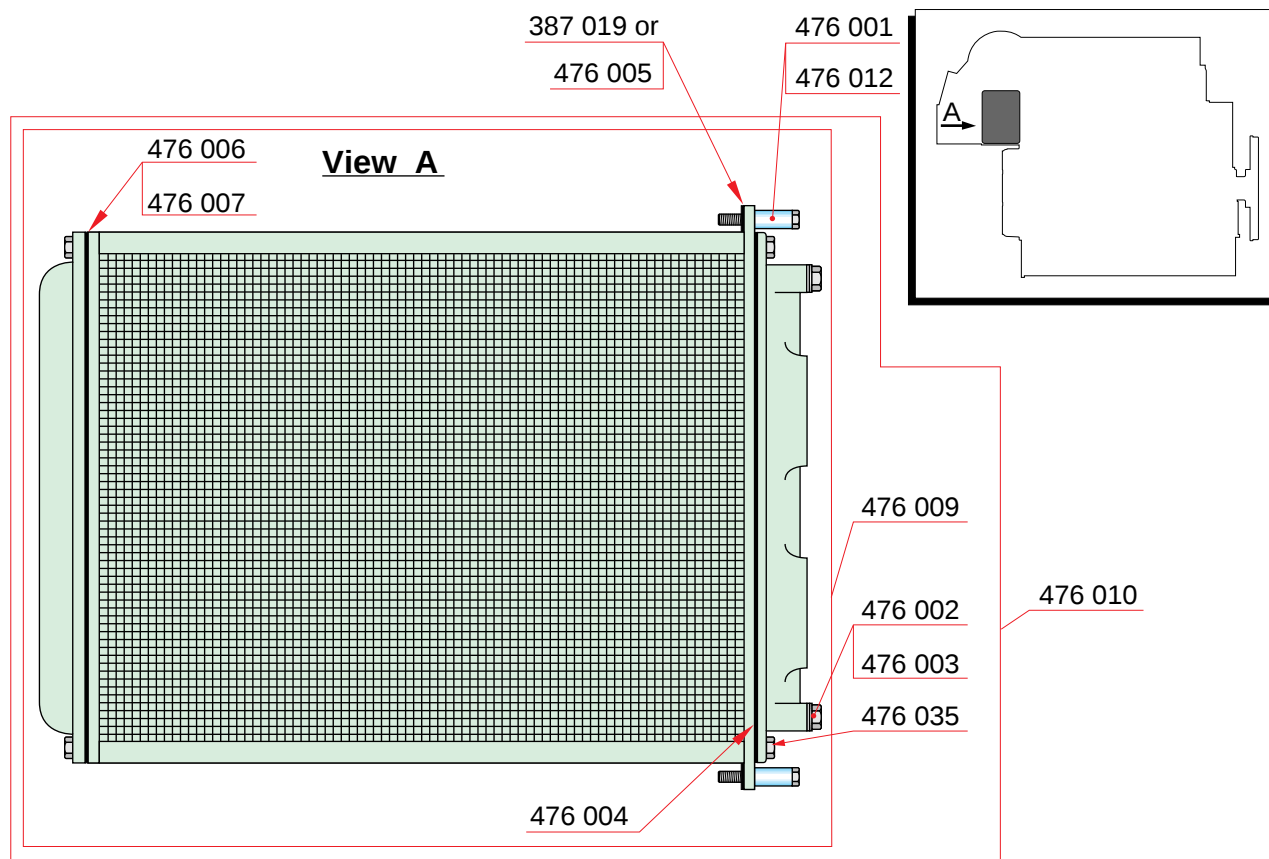


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
473 040	Sealing set	1	0.2				
473 003	O-ring	1	-				
473 004	O-ring	1	-				
473 007	Gasket	1	-				
473 029	O-ring *	1	-				
473 030	O-ring **	1	-				

NOTE! (*) used in model GF600-5. (**) used in model GF600-18.

This page is intentionally left blank.

Air cooler



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
476 001	Screw	*	-				
476 005	Gasket (1)	*	-				
476 010	Air cooler, compl.	1	-				
476 002	Plug	8	-				
476 003	Sealing ring	8	-				
476 009	Sealing set (3)	1	-				
476 004	Gasket (2)	1	-				
476 006	Gasket (2)	1	-				
476 007	Rubber band (2)	1	-				
476 035	Screw (4)	-	-				
476 012	Bush	*	-				
387 019	Glue compound (1)	*	-				

NOTE! (1) Depends on turbocharger

NOTE! (2) Components are not available as single parts

NOTE! (3) When ordering, please state the serial number and the manufacturer of the air cooler

NOTE! (4) Amount of the screws depends of the air cooler type.

NOTE! * See page 2

Edition: B
Page: 2(2)
Updated: 10.01.2002

Air cooler

Quantity according to number of cylinders

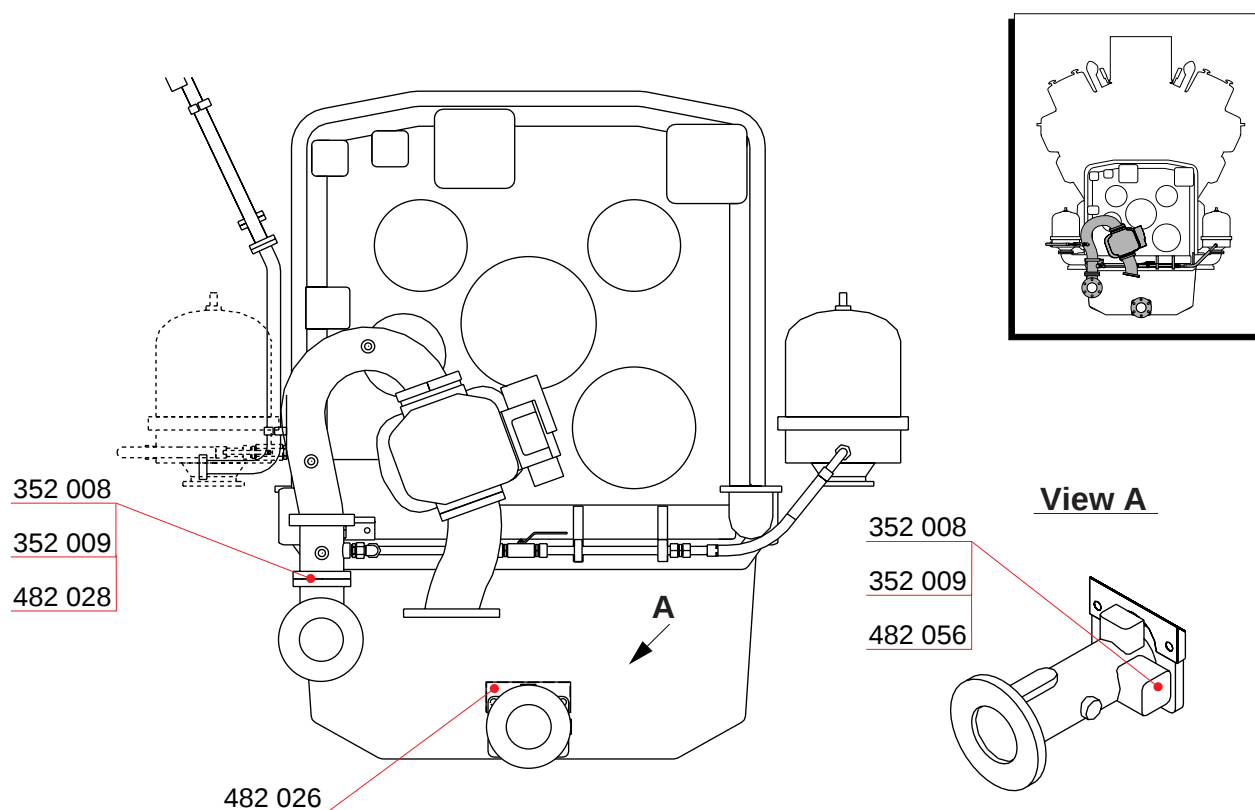
2-Stage Air Cooler

Part No	Pieces		
	R32	V32 TPL	V32 Hispano
387 019	-	1	1
476 001	26	56	52
476 005	1	-	-
476 012	26	56	52

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Shield for fuel and lubricating oil pipes

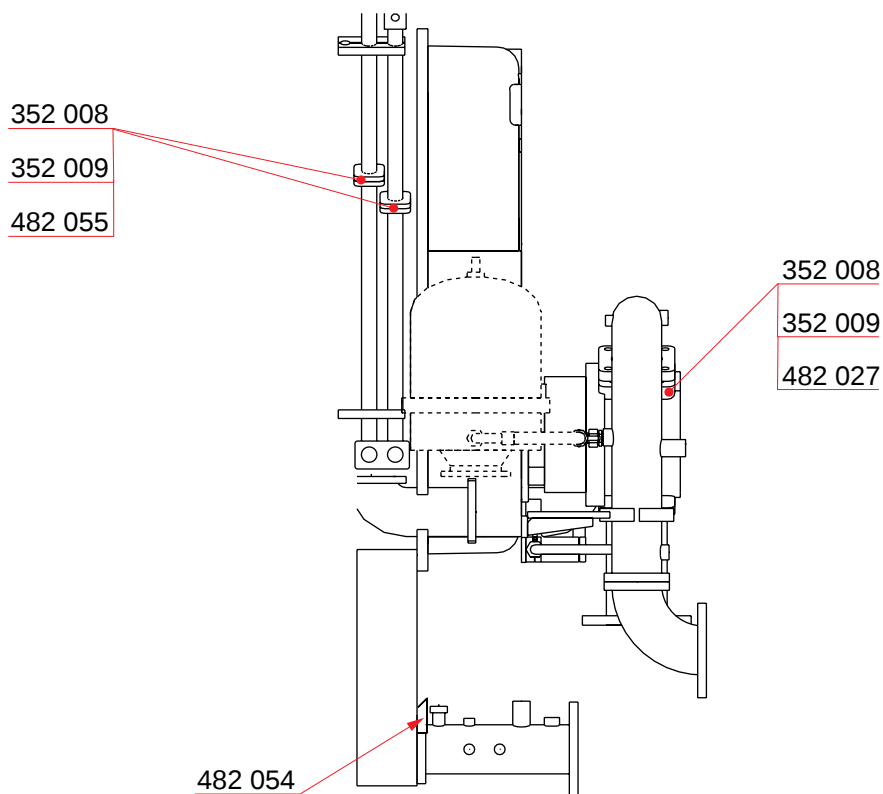


Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 008	Screw	7	-
352 009	Nut	7	-
482 028	Sprinkle guard	1	0.2
482 026	Sprinkle guard	1	-
482 056	Sprinkle guard	1	0.2

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

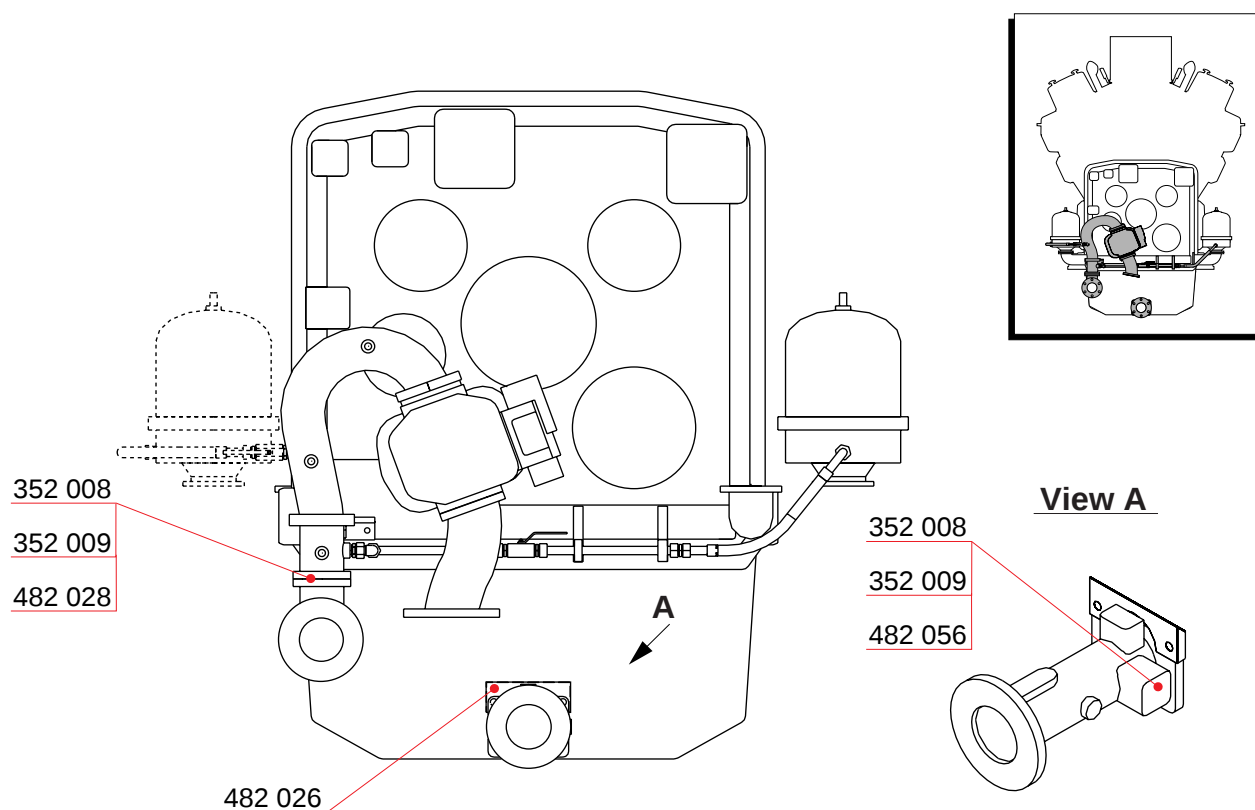
Edition: B
 Page: 2(2)
 Updated: 22.05.2003

Shield for fuel and lubricating oil pipes



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 008	Screw	7	-				
352 009	Nut	7	-				
482 027	Shield	1	0.2				
482 054	Washer	2	-				
482 055	Sprinkle guard	2	-				

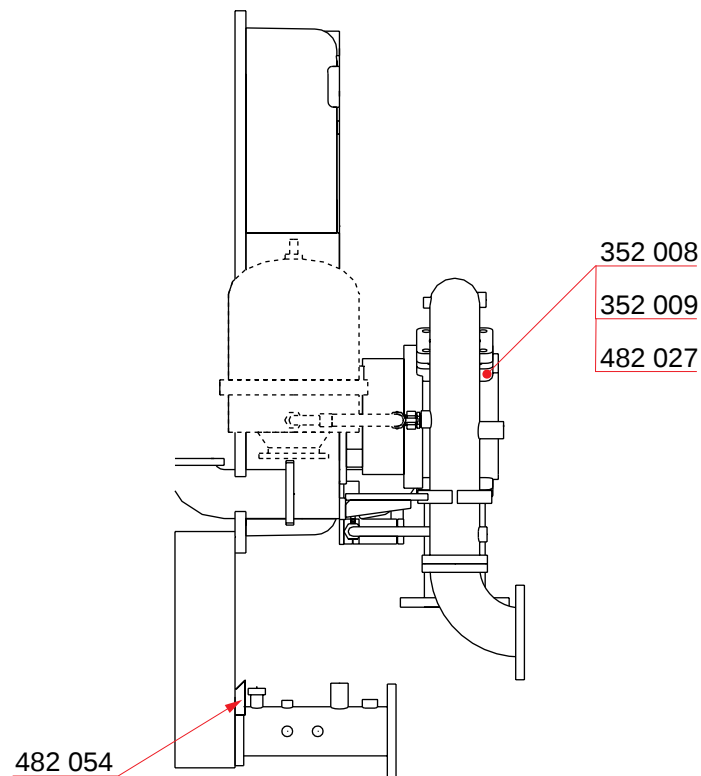
Shields for lube oil pipes



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 008	Screw	5	-				
352 009	Nut	5	-				
482 026	Sprinkle guard	1	-				
482 028	Sprinkle guard	1	0.2				
482 056	Sprinkle guard	1	0.2				

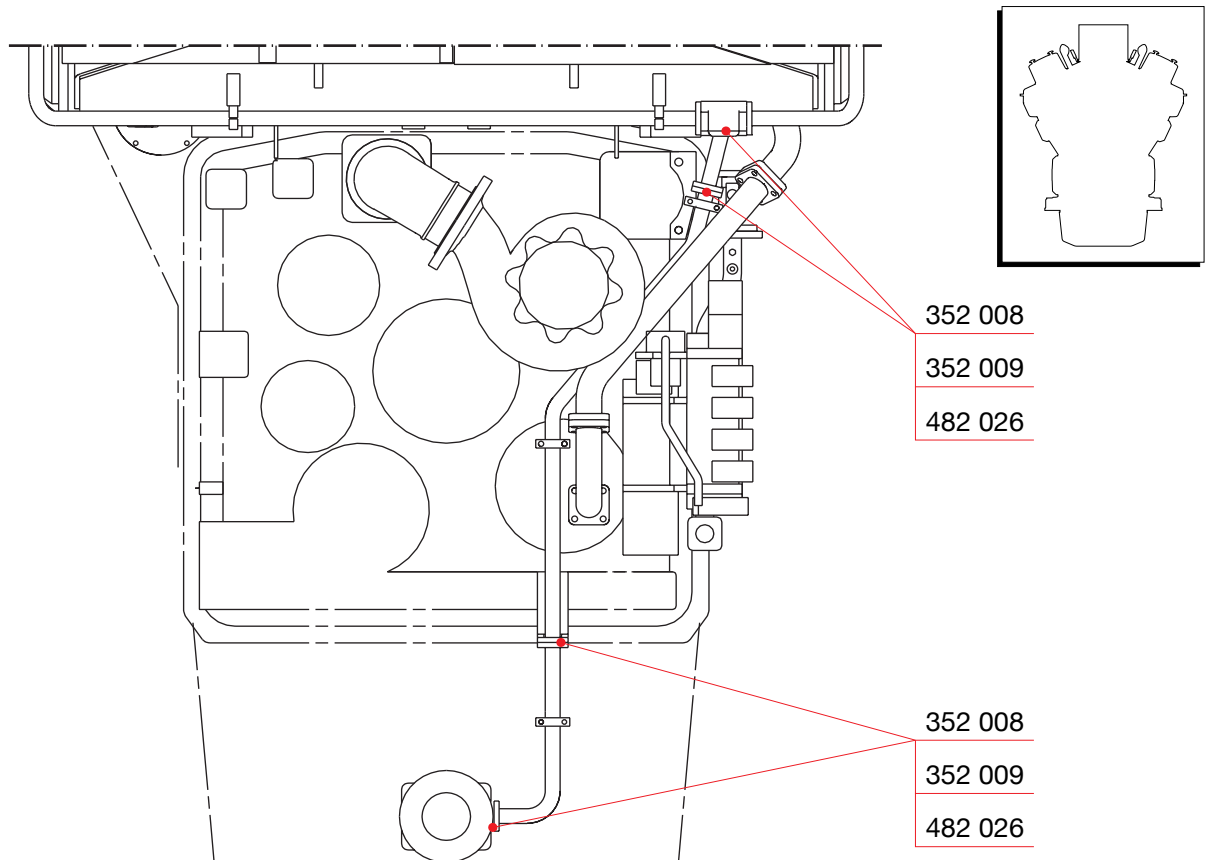
Edition: A
Page: 2(2)
Updated: 22.05.2003

Shields for lube oil pipes



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 008	Screw	5	-				
352 009	Nut	5	-				
482 027	Shield	1	0.2				
482 054	Washer	2	-				

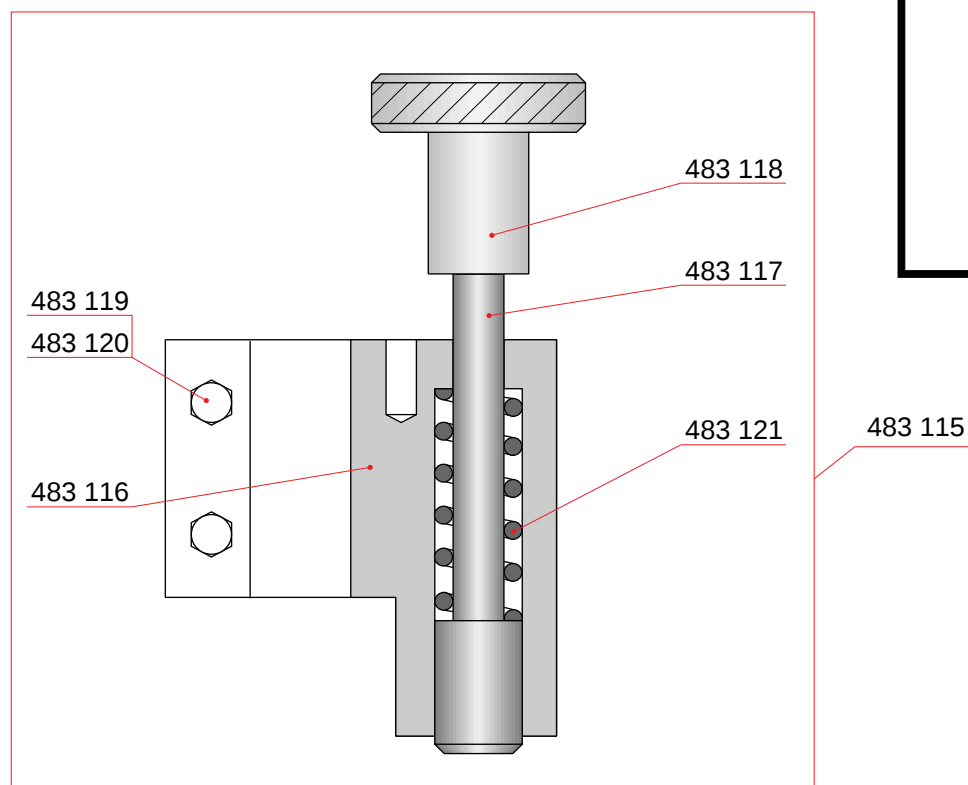
Shield for lubricating oil pipes



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 008	Screw	5	-				
352 009	Nut	5	-				
482 026	Sprinkle guard	5	0.1				

This page is intentionally left blank.

Locking device

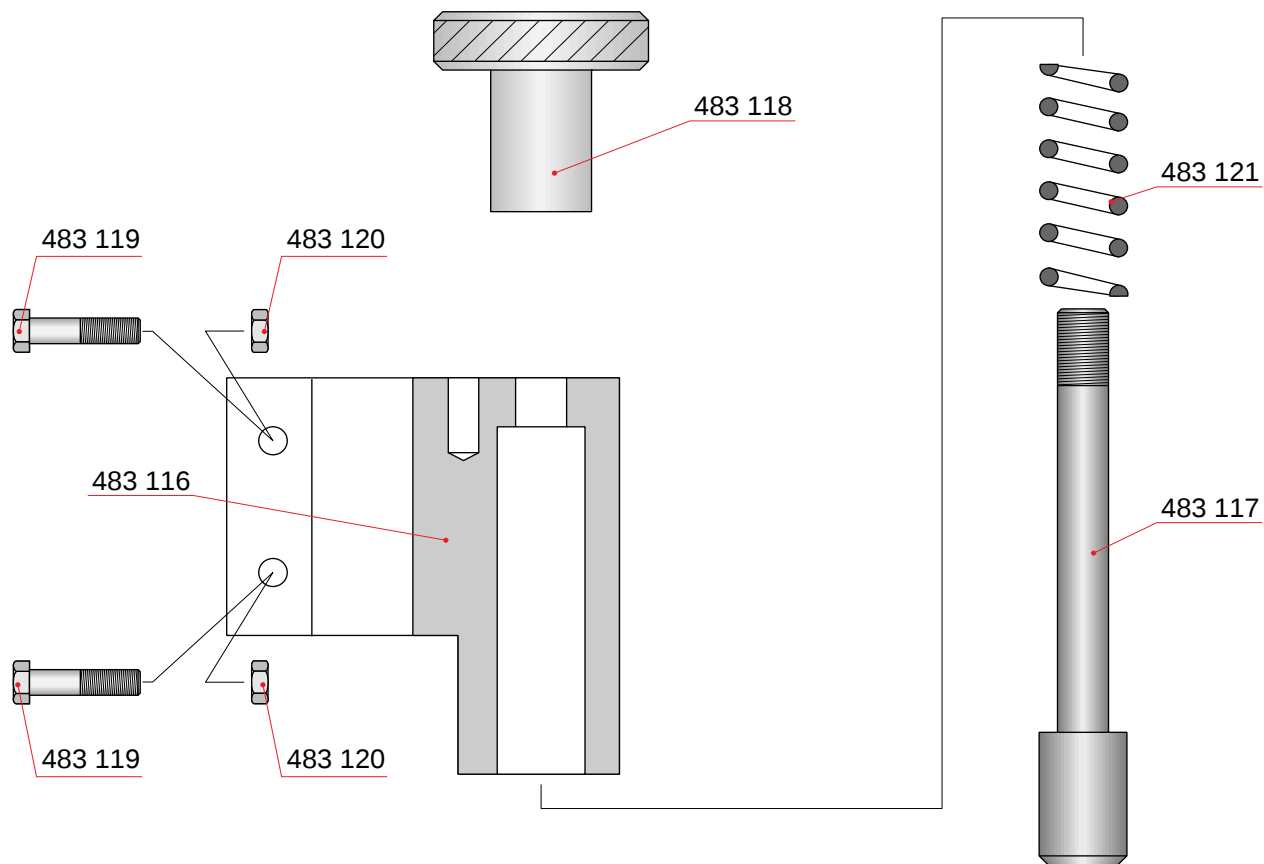


Part No.	Description	Qty [Pcs]	Wt. [Kg]
483 115	Locking device	1	0.4
483 116	Spring housing	1	-
483 117	Locking pin	1	-
483 118	Knob	1	-
483 119	Screw	2	-
483 120	Nut	2	-
483 121	Compression spring	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Edition: A
 Page: 2(2)
 Updated: 26.10.1993

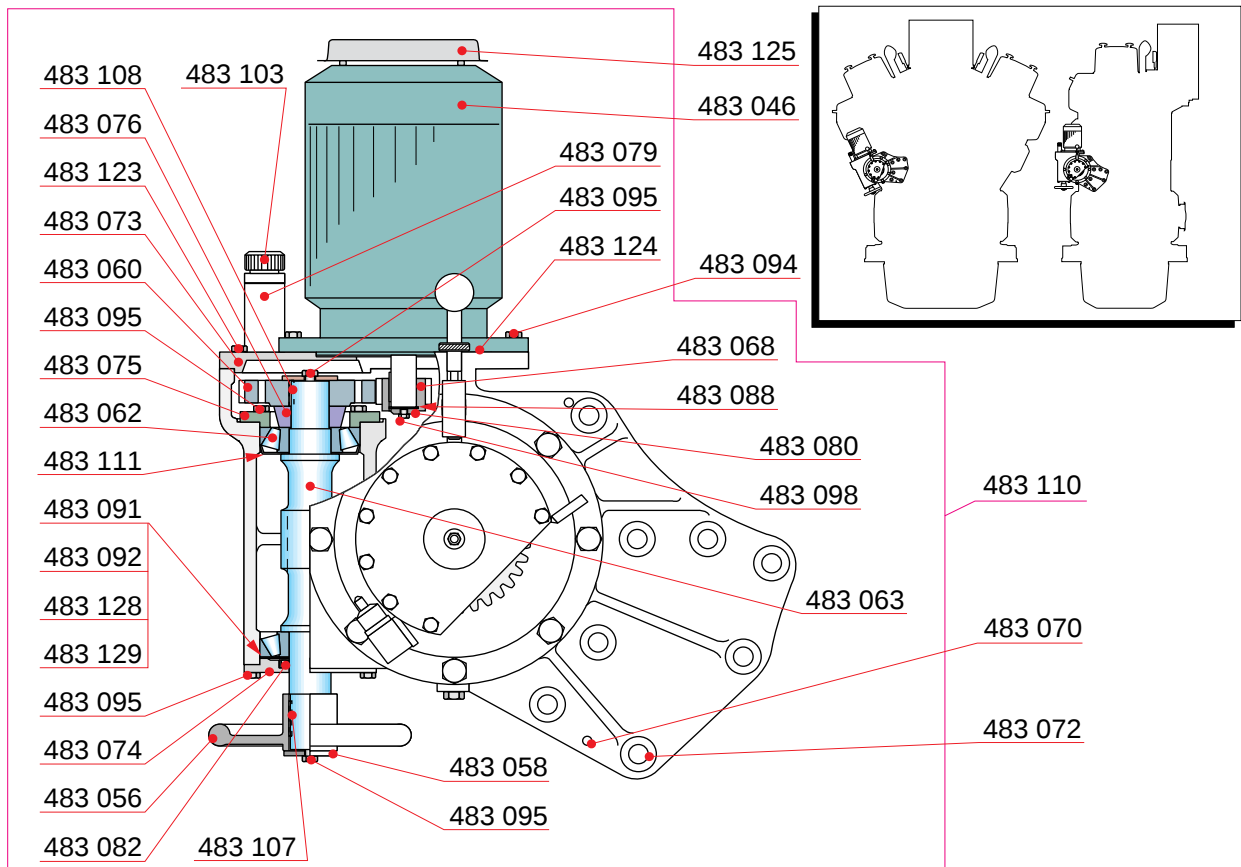
Locking device



Part No.	Description	Qty [Pcs]	Wt. [Kg]
483 116	Spring housing	-	-
483 117	Locking pin	-	-
483 118	Knob	-	-
483 119	Screw	-	-
483 120	Nut	-	-
483 121	Compression spring	-	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

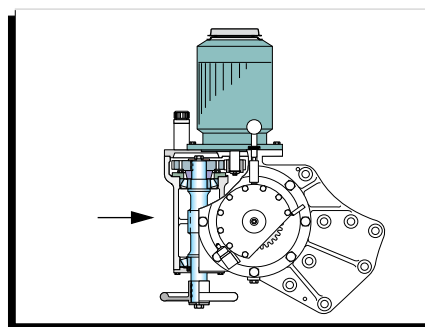
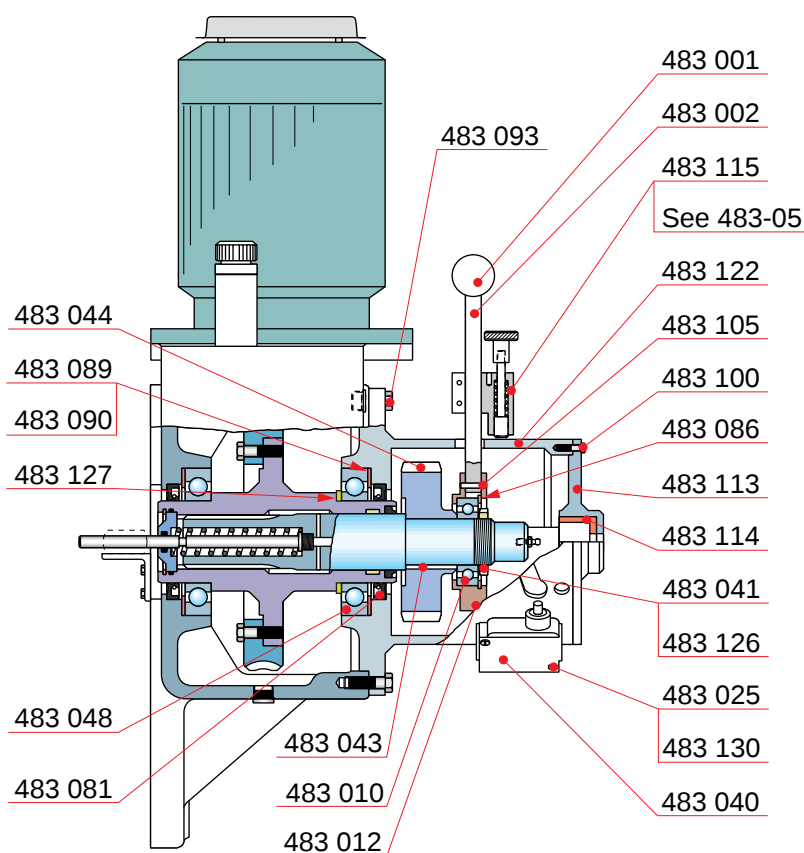
Turning device



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
483 046	Electric motor	1	-	483 111	Nilos-ring	1	-
483 070	Pin	1	-	483 123	Screw	2	-
483 072	Screw	1	0.1	483 124	Screw	4	-
483 094	Screw	4	-	483 128	Distance ring	1	-
483 110	Turning device, compl.	1	130	483 129	Gasket	1	-
483 056	Hand wheel	1	3.2	483 125	Cover	1	-
483 058	Washer	2	0.1				
483 060	Gear	1	2.5				
483 062	Bearing	2	0.9				
483 063	Worm	1	4.5				
483 068	Primary gear	1	0.3				
483 073	Cover	1	5.0				
483 074	Cover	1	1.3				
483 075	Cover	1	1.0				
483 076	Bush	1	0.3				
483 079	Bush	1	0.4				
483 080	Washer	1	-				
483 082	Shaft seal	1	-				
483 088	Locking ring	1	-				
483 091	Adjusting ring	2	-				
483 092	Adjusting ring	2	-				
483 095	Screw	12	-				
483 098	Screw	1	-				
483 103	Vent pipe	1	-				
483 107	Key	1	-				
483 108	Key	1	-				

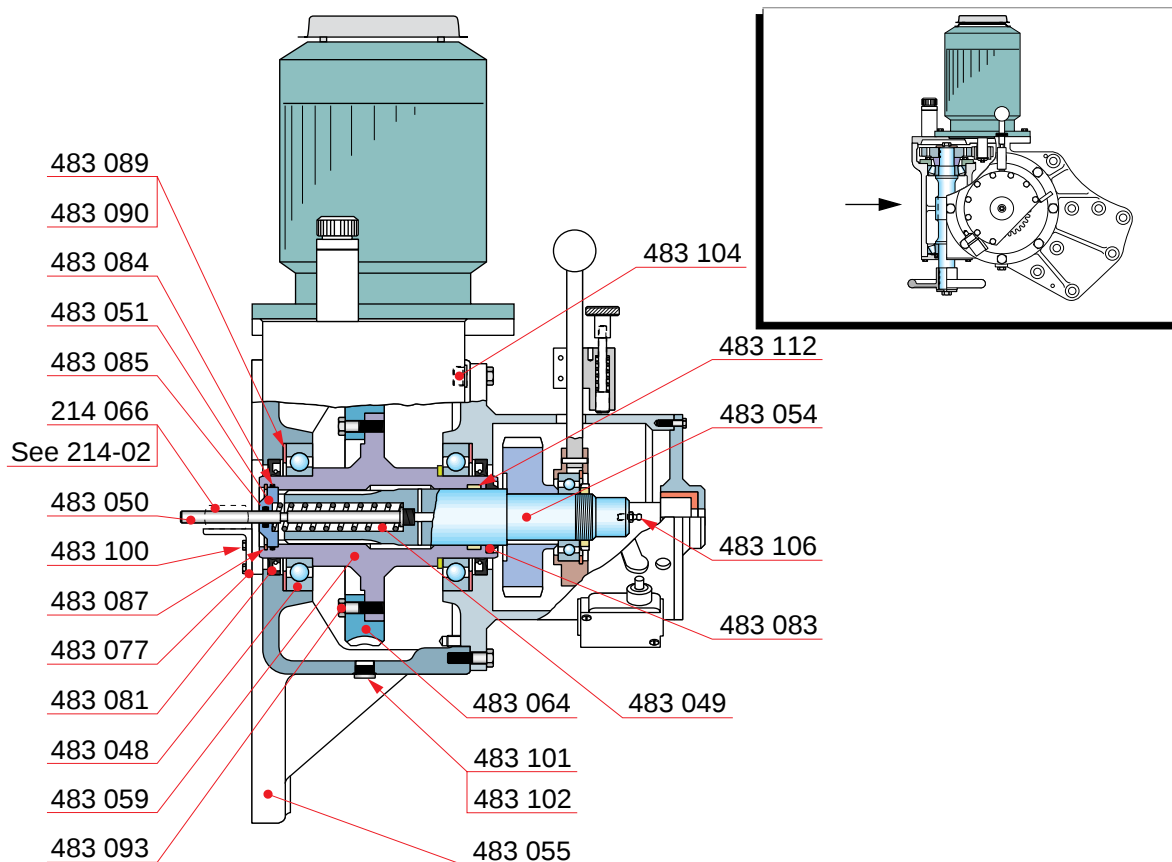
Edition: C
 Page: 2(3)
 Updated: 12.05.2004

Turning device



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
483 001	Ball knob	1	-	483 127	Distance piece	1	-
483 002	Arm	1	0.5	483 130	Washer	8	-
483 010	Bearing	1	0.4				
483 012	Bearing housing	1	1.5				
483 025	Slotted head screw	2	-				
483 040	Limit switch	1	0.2				
483 041	Nut	1	0.1				
483 043	Key	1	-				
483 044	Gear wheel	1	4.9				
483 048	Bearing	2	1.4				
483 081	Shaft seal	2	-				
483 086	Locking ring	1	-				
483 089	Adjusting ring	2	-				
483 090	Adjusting ring	2	-				
483 093	Screw	10	-				
483 100	Screw	13	-				
483 105	Spring pin	1	-				
483 113	Cover	1	2.0				
483 114	Bush	1	-				
483 115	Locking device	1	0.4				
483 122	Cover	1	12.6				
483 126	Lock washer	1	-				

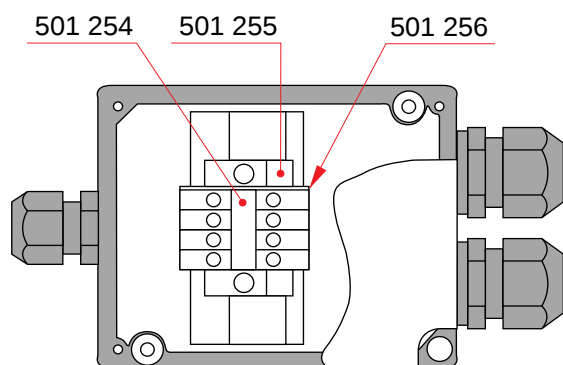
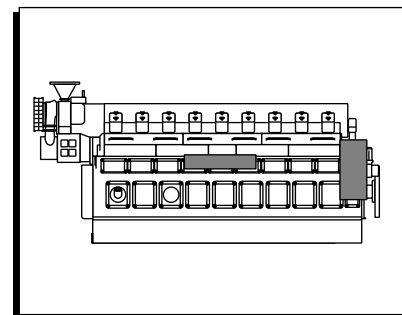
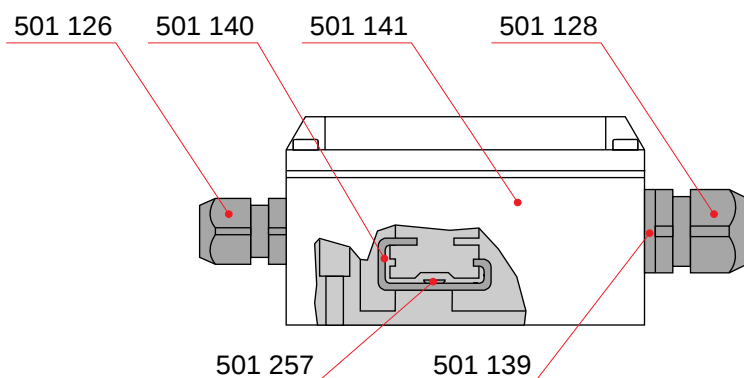
Turning device



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
214 066	Start blocking device, complete	1	1.7	483 104	Oil level gauge	1	-
483 048	Bearing	2	1.4	483 106	Lubricating nipple	1	-
483 049	Compression spring	1	0.1	483 112	Locating ring	1	-
483 050	Locking pin	1	0.2				
483 051	Flange	1	0.2				
483 054	Shaft	1	4.2				
483 055	Gear box	1	-				
483 059	Hub	1	9.6				
483 064	Worm wheel	1	5.6				
483 077	Bracket	1	0.4				
483 081	Shaft seal	2	-				
483 083	Dispenser	1	-				
483 084	O-ring	1	-				
483 085	O-ring	1	-				
483 087	Locking ring	1	-				
483 089	Adjusting ring	2	-				
483 090	Adjusting ring	2	-				
483 093	Screw	10	-				
483 100	Screw	13	-				
483 101	Plug	1	-				
483 102	Sealing ring	1	-				

This page is intentionally left blank.

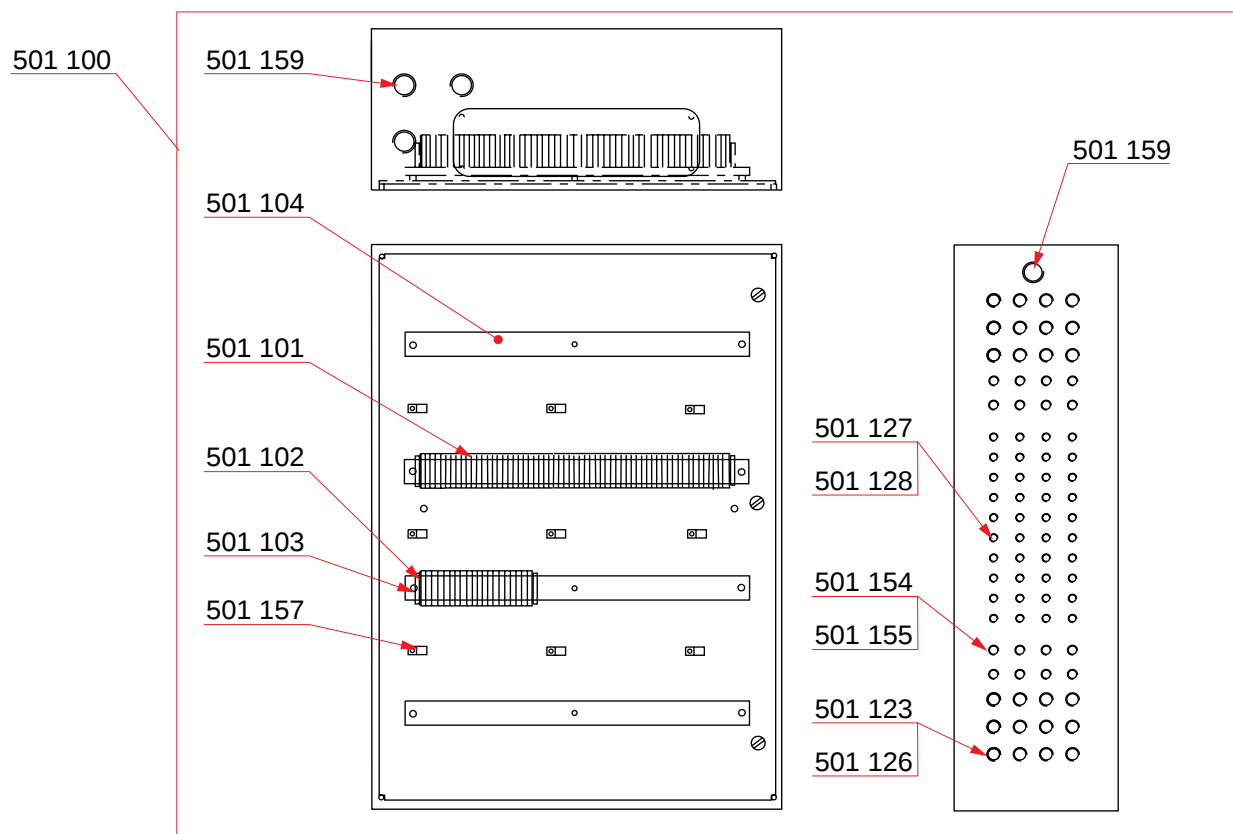
Connecting box for electrical system



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
501 126	Bush seal	1	-				
501 128	Bush seal	2	-				
501 139	Reduction nipple	2	-				
501 140	Connecting rail	1	-				
501 141	Connecting box	1	0.5				
501 254	Terminal strip	4	-				
501 255	End stopper	2	-				
501 256	End plate	1	-				
501 257	Screw	2	-				

This page is intentionally left blank.

Connecting box



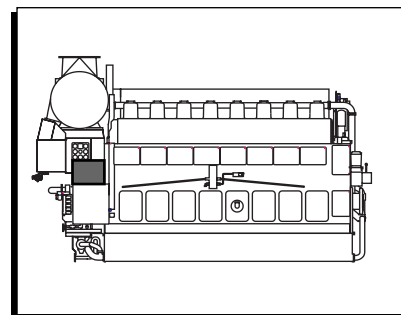
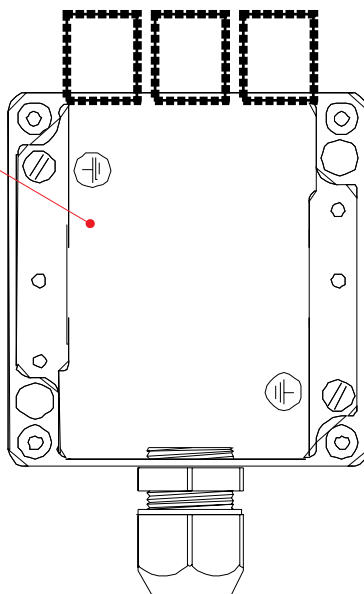
Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
501 100	Connecting box	1	-				
501 101	Terminal strip	70	-				
501 102	End plate	2	-				
501 103	End stopper	4	-				
501 104	Mounting plate for terminal strips	4	-				
501 123	Nut	24	-				
501 126	Bush seal	24	-				
501 127	Nut	40	-				
501 128	Bush seal	40	-				
501 154	Bush seal	16	-				
501 155	Nut	16	-				
501 157	Clamp	9	-				
501 159	Plug	7	-				

This page is intentionally left blank.

Connecting box for temperature sensor

501 258

501 259

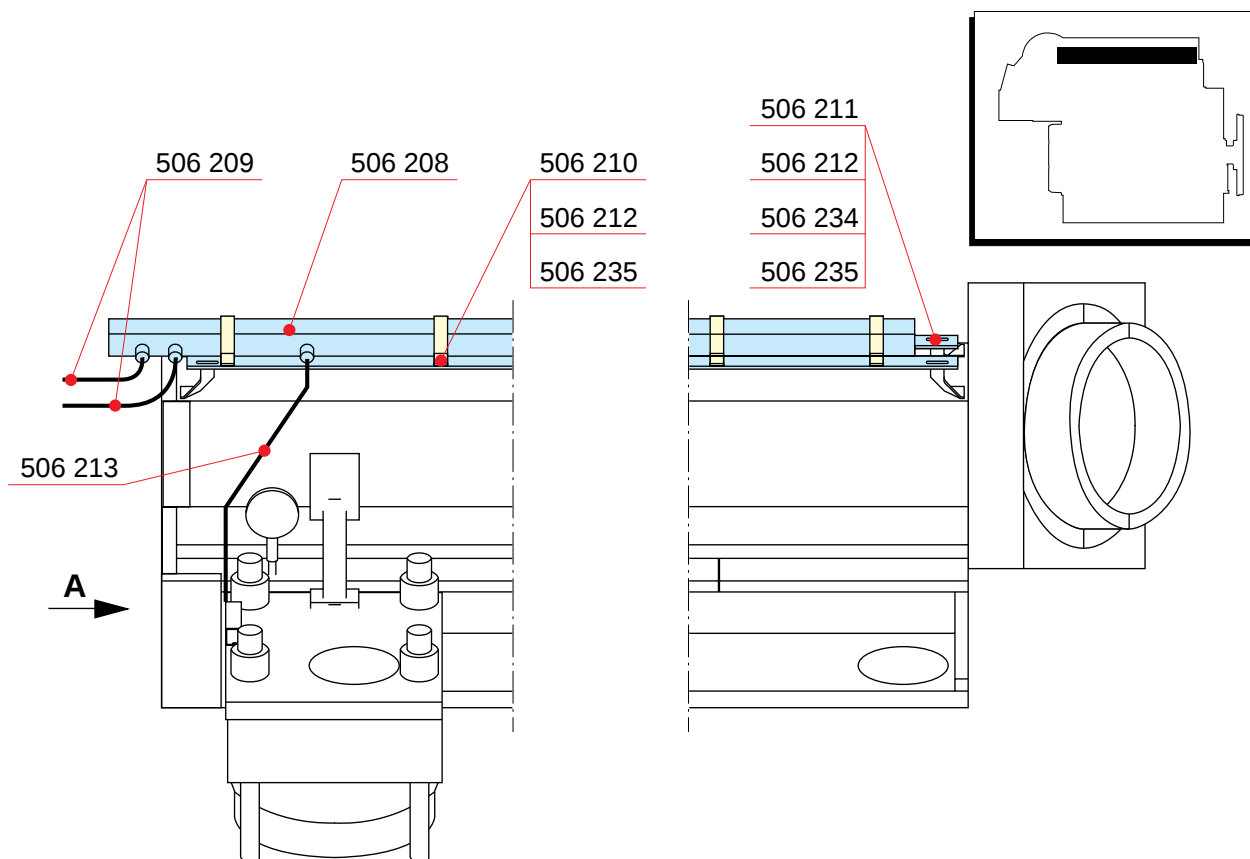


Part No.	Description	Qty [Pcs]	Wt. [Kg]
501 258	Connecting box	1	0.5
501 259	Screw	2	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Exhaust temperature measuring system



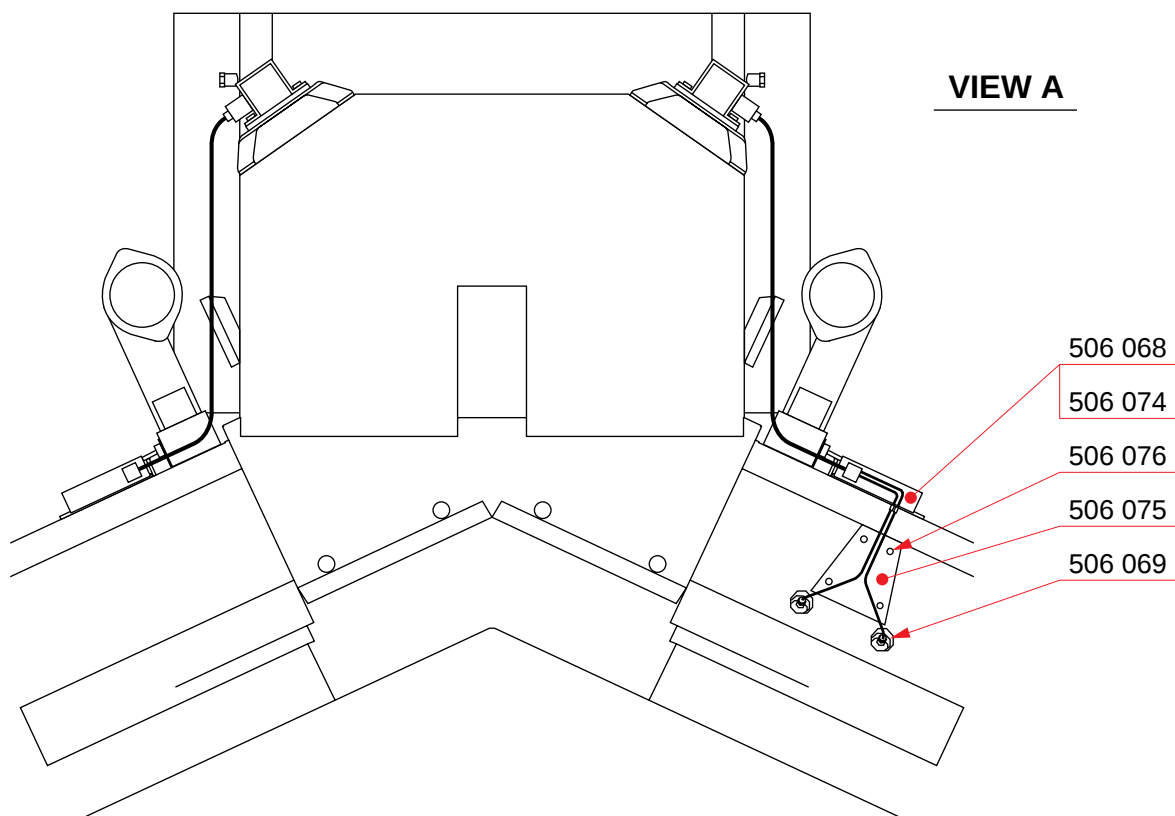
Part No.	Description	Qty [Pcs]	Wt. [Kg]
506 208	Pipe	2	-
506 209	Cable	*	-
506 210	Bracket	*	-
506 211	Clamp	*	-
506 212	Screw	*	-
506 213	Cable	*	-
506 234	Washer	*	-
506 235	Nut	*	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

NOTE! * See page 3

Edition: A
Page: 2(3)
Updated: 15.03.1999

Exhaust temperature measuring system



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
506 068	Temperature sensor	*	-				
506 069	Protecting well	*	-				
506 074	Screw	*	-				
506 075	Cover	*	-				
506 076	Screw	*	-				

NOTE! * See page 3

Exhaust temperature measuring system

Quantity according to number of cylinders

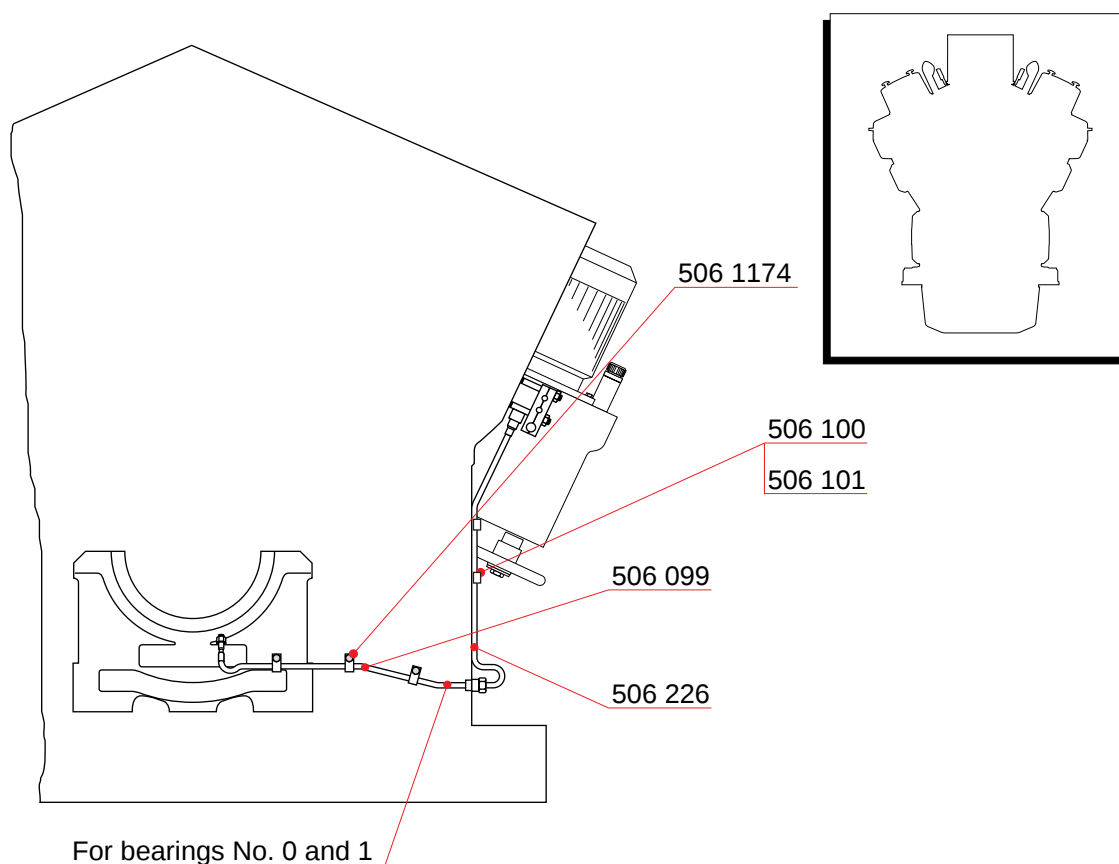
Part No	Pieces		
	12V32	16V32	18V32
506 068	12	16	18
506 069	24	32	36
506 074	24	32	36
506 075	12	16	18
506 076	48	64	72
506 209	2	4	4
506 210	14	18	20
506 211	12	16	12
506 212	52	68	64
506 213	12	16	18
506 234	24	32	24
506 235	52	68	64

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

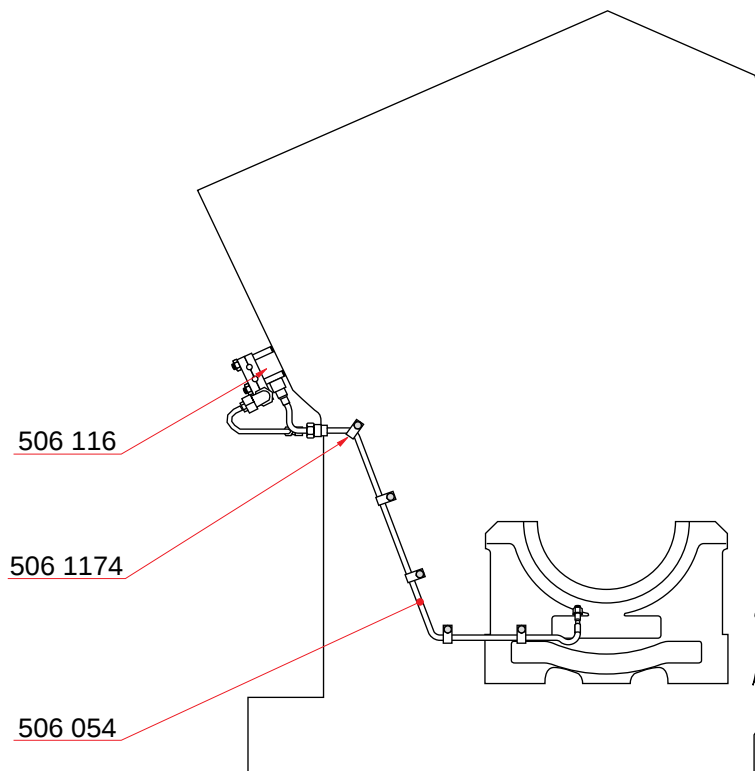
Temperature sensors for main bearings



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
506 099	Temperature sensor, thrust bearing	2	-				
506 100	Clamp	2	-				
506 101	Screw	4	-				
506 226	Protecting pipe	1	-				
506 1174	Screw	*	-				

Edition: A
Page: 2(3)
Updated: 17.09.2004

Temperature sensors for main bearings



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
506 054	Temperature sensor, main bearing	*	-				
506 116	Connecting rail	1	-				
506 1174	Screw	*	-				

Temperature sensors for main bearings

Quantity according to number of cylinders

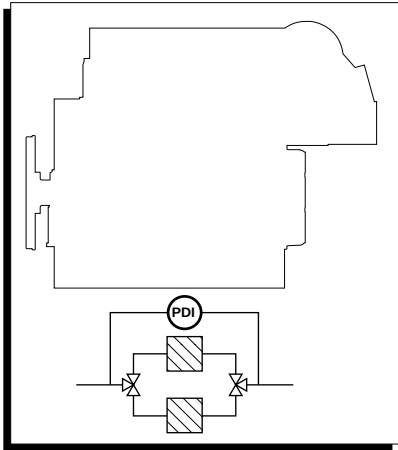
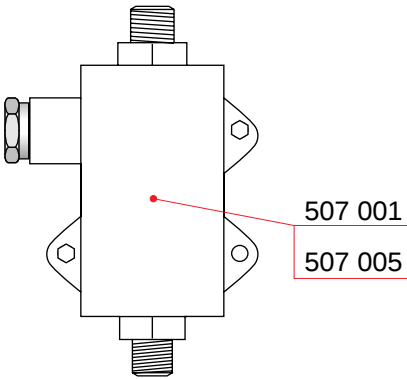
Part No	Pieces		
	12V	16V	18V
506 054	6	8	9
506 1174	36	46	56

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Pressure difference indicator



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
507 001	Pressure difference indicator for lube oil filter	1	0.6				
507 005	Pressure difference indicator for fuel filter	1	0.6				

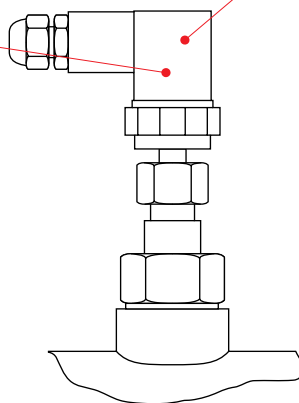
This page is intentionally left blank.

Temperature transmitter

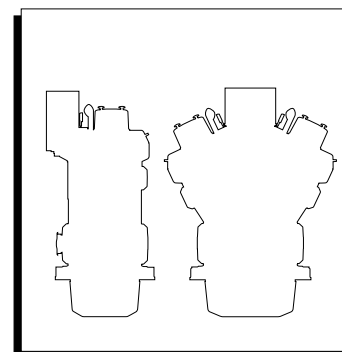
When ordering spare parts, check codes and names General Arrangement and Wiring Diagram drawings for the specific installation.

TYPE A

TE 451
TE 452
TE 471
TE 472
TE 482
TE 601
TE 604
TE 621
TE 631
TE 651



TE 101
TE 201
TE 202
TE 231
TE 232
TE 401
TE 402
TE 422A
TE 422B
TE 432

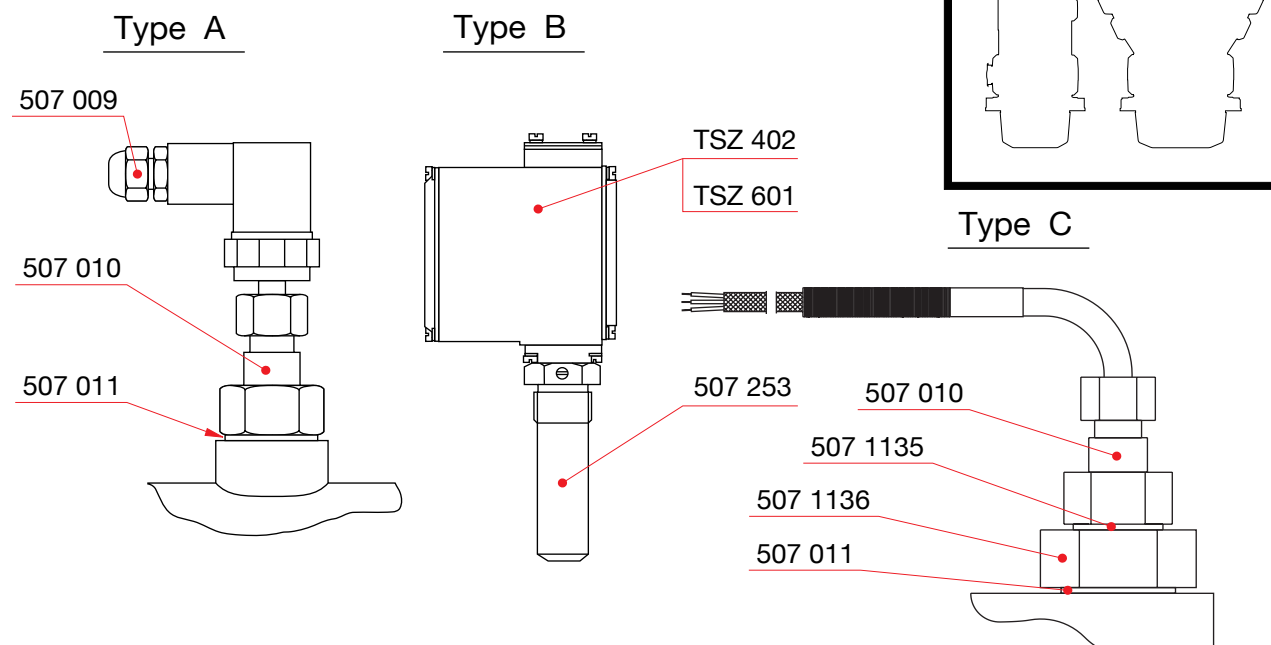


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
TE101	Alarm, fuel oil low temp.,before engine	*	-	TE452	Alarm, LT-water high temp., after engine	*	-
TE201	Alarm, lube oil high temp.,before engine	*	-	TE471	LT water temperature, before charge air cooler	*	-
TE202	Alarm, lube oil high temp.,after engine	*	-	TE472	LT water temperature, after charge air cooler	*	-
TE231	Lube oil temperature, lubricating oil cooler inlet	*	-	TE482	LT water temperature, lubricating oil cooler outle	*	-
TE232	Lube oil temperature, lubricating oil cooler outle	*	-	TE601	Charge air temperature, inlet	*	-
TE401	Alarm, HT-water high temp.,bef.engine	*	-	TE604	Air temperature, TC inlet	*	-
TE402	HT water temp.,after eng.	*	-	TE621	Charge air temperature sensor before CAC	*	-
TE422A	HT water temp.,after TC A	*	-	TE631	Charge air temperature sensor before CAC, B	*	-
TE422B	HT water temp.,after TC B	*	-	TE651	Charge air temp., TC filter inlet	*	-
TE432	Temp.transmitter, HT water, after TC	*	-	NOTE!	* Quantity according to installation		
TE451	Alarm, LT-water high temp., bef.engine	*	-				

Edition: F
 Page: 2(6)
 Updated: 24.05.2004

Temperature transmitter

When ordering spare parts, check codes and names
 General Arrangement and Wiring Diagram drawings
 for the specific installation.

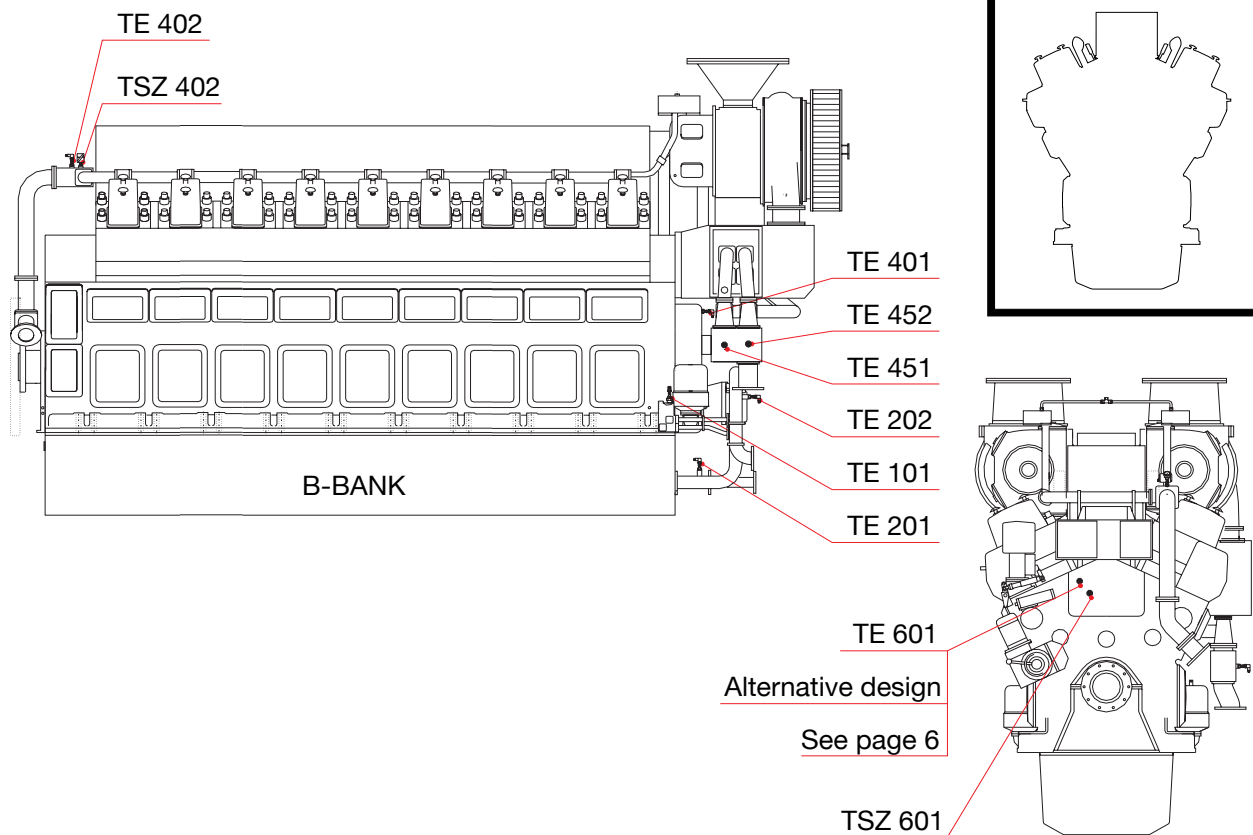


Part No.	Description	Qty [Pcs]	Wt. [Kg]
507 009	Bush seal	*	-
507 010	Protecting well	*	0.2
507 011	Sealing ring	*	-
507 253	Protecting well	*	0.2
507 1135	Sealing ring	*	-
507 1136	Reduction nipple	*	-
TSZ402	Stop,HT-water high temp.,after eng.	*	-
TSZ601	Stop/Slow down. Charge air high temp. after cooler	*	0.7

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

NOTE! * Quantity according to installation

Temperature transmitter

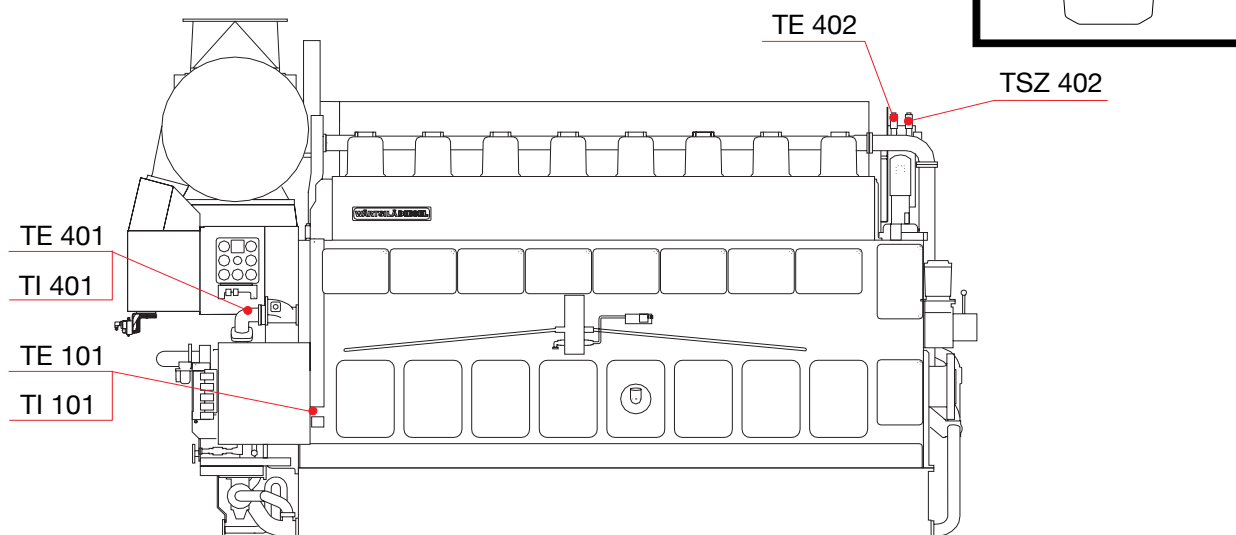


Part No.	Description	Qty [Pcs]	Wt. [Kg]
TE101	Alarm, fuel oil low temp.,before engine	*	-
TE201	Alarm, lube oil high temp.,before engine	*	-
TE202	Alarm, lube oil high temp.,after engine	*	-
TE401	Alarm, HT-water high temp.,bef.engine	*	-
TE402	HT water temp.,after eng.	*	-
TE451	Alarm, LT-water high temp., bef.engine	*	-
TE452	Alarm, LT-water high temp., after engine	*	-
TE601	Charge air temperature, inlet	*	-
TSZ402	Stop,HT-water high temp.,after eng.	*	-
TSZ601	Stop/Slow down. Charge air high temp. after cooler	*	0.7

NOTE! * Quantity according to installation

Edition: F
 Page: 4(6)
 Updated: 24.05.2004

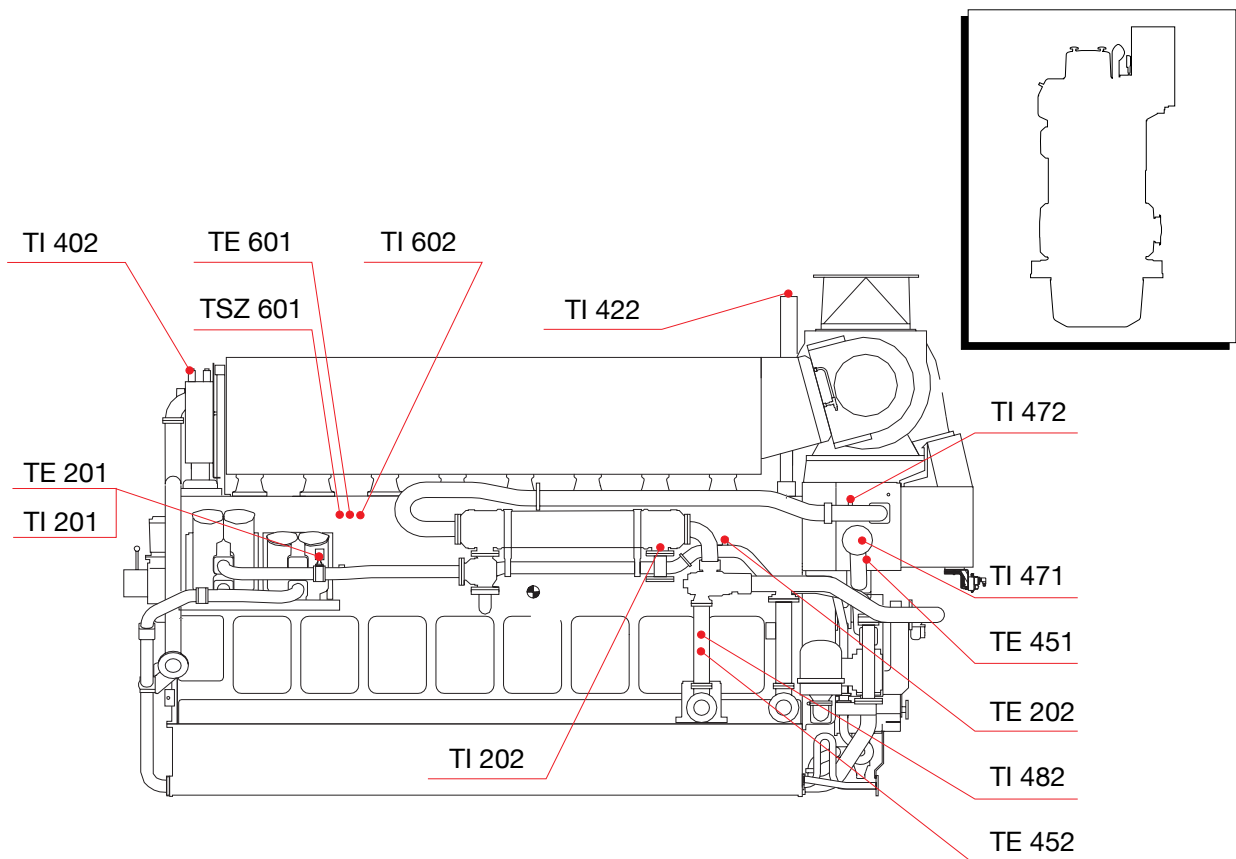
Temperature transmitter



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
TE101	Alarm, fuel oil low temp.,before engine	*	-				
TE401	Alarm, HT-water high temp.,bef.engine	*	-				
TE402	HT water temp.,after eng.	*	-				
TI101	Thermometer, fuel oil, before engine	*	-				
TI401	Thermometer, HT water, before engine	*	-				
TSZ402	Stop,HT-water high temp.,after eng.	*	-				

NOTE! * Quantity according to installation

Temperature transmitter

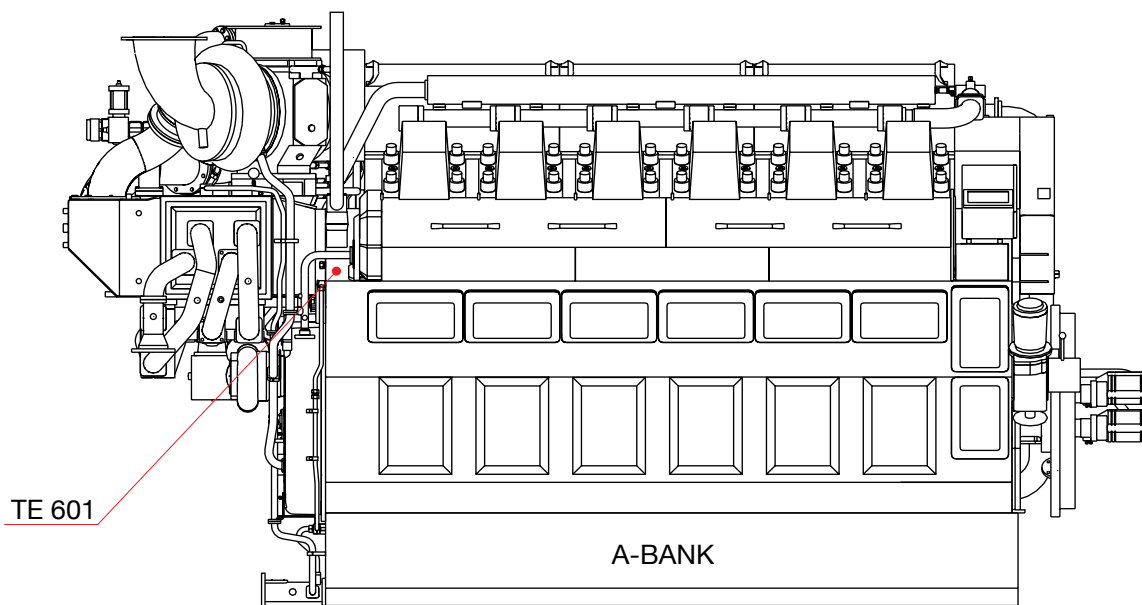


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
TE201	Alarm, lube oil high temp.,before engine	*	-	TI472	Thermometer, LT water, after charge air cooler	*	-
TE202	Alarm, lube oil high temp.,after engine	*	-	TI482	Thermometer, LT water, after LO-cooler	*	-
TE451	Alarm, LT-water high temp., bef.engine	*	-	TI602	Thermometer for charge air, after cooler	*	-
TE452	Alarm, LT-water high temp., after engine	*	-	TSZ601	Stop/Slow down. Charge air high temp. after cooler	*	0.7
TE601	Charge air temperature, inlet	*	-	NOTE!	* Quantity according to installation		
TI201	Thermometer for lubricating oil, before engine	*	-				
TI202	Thermometer for lubricating oil, before engine	*	-				
TI402	Thermometer, HT water, after engine	*	-				
TI422	Thermometer, HT water, after TC (1)	*	-				
TI471	Thermometer, LT water, before charge air cooler	*	-				

Edition: F
Page: 6(6)
Updated: 24.05.2004

Temperature transmitter

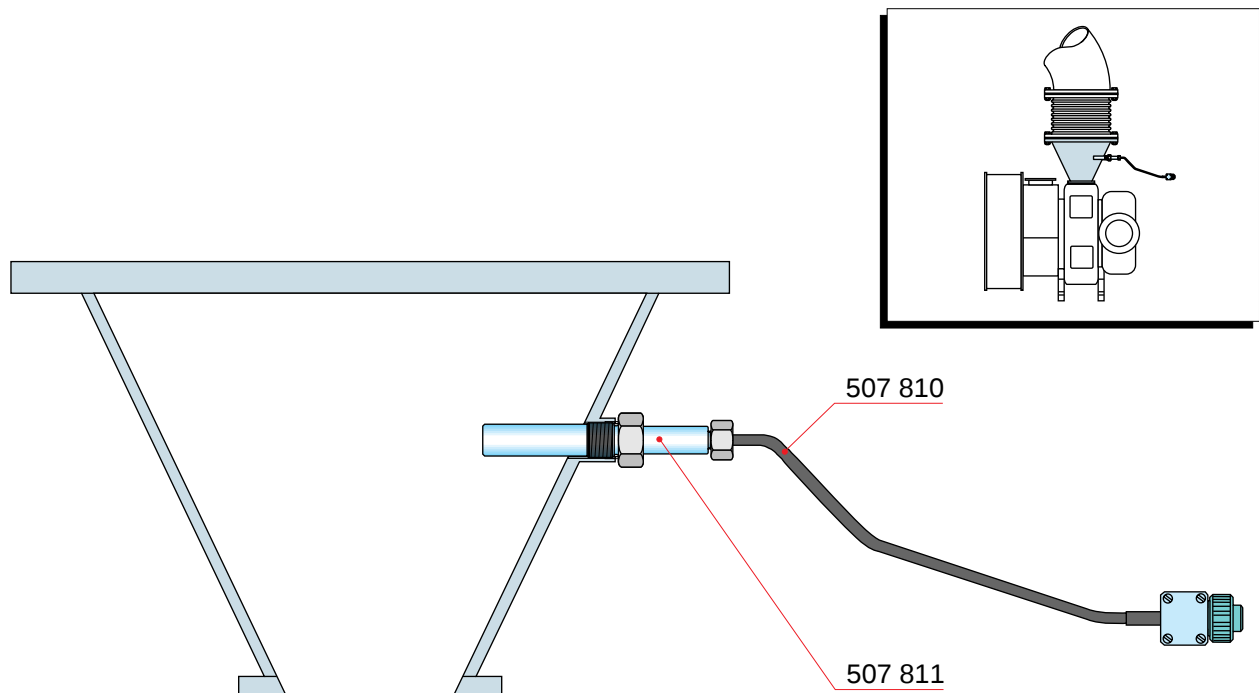
Alternative design



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
TE601	Charge air temperature, inlet	*	-				

NOTE! * Quantity according to installation

Temperature sensor for exhaust gas

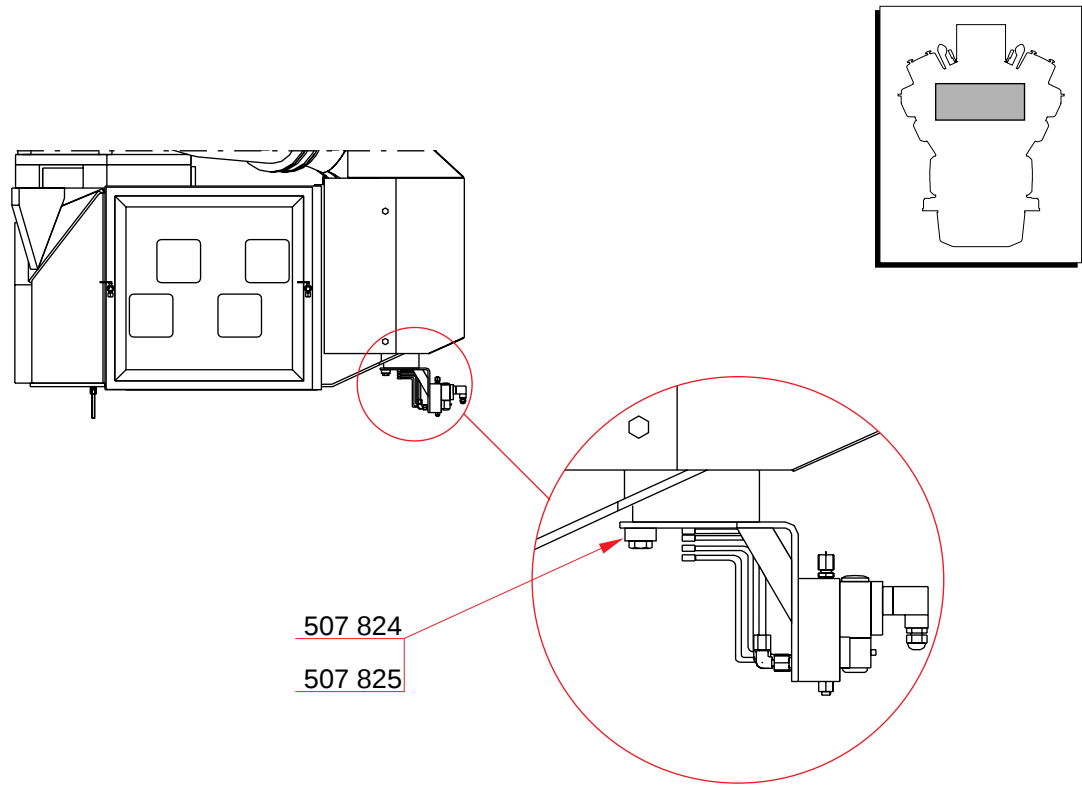


Part No.	Description	Qty [Pcs]	Wt. [Kg]
507 810	Exhaust gas temperature sensor, after T/C	1	-
507 811	Protecting well	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

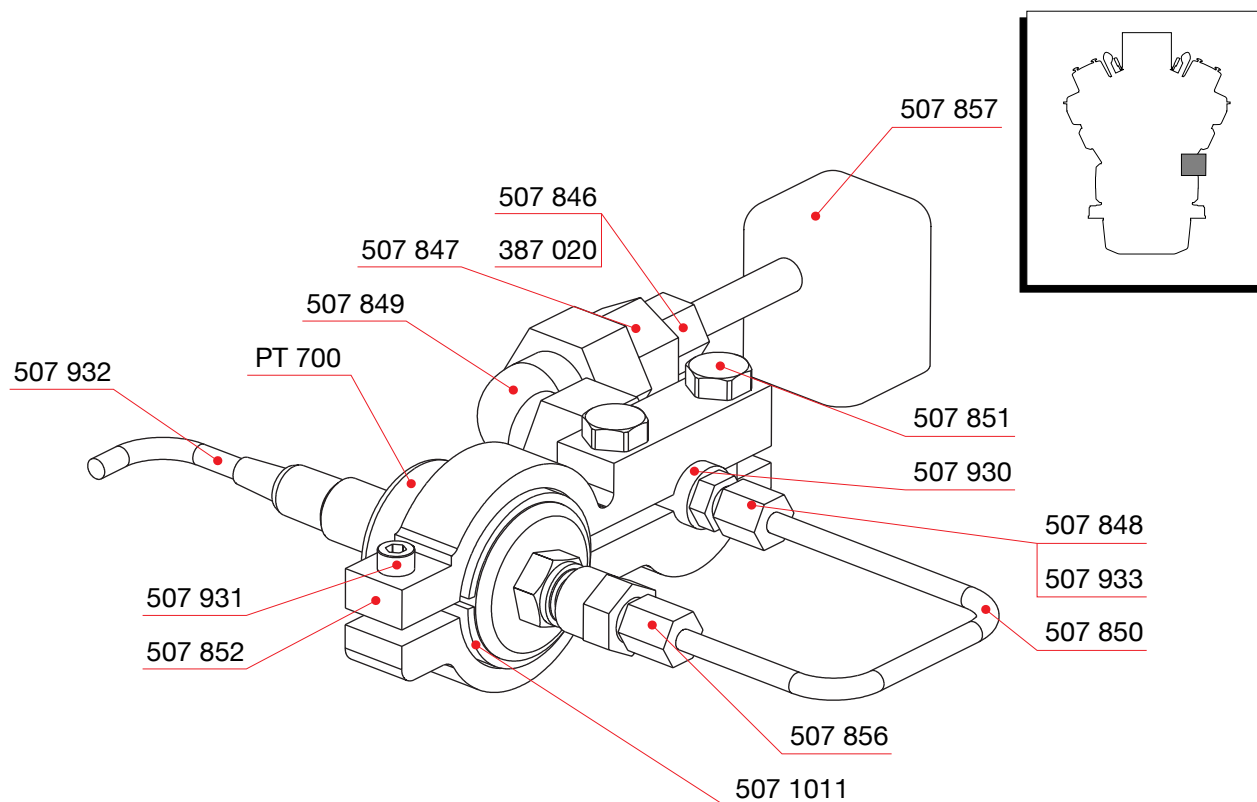
Assembling of bracket for pressure sensors



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
507 824	Screw	4	-				
507 825	Washer	4	-				

This page is intentionally left blank.

Pressure sensor for crankcase

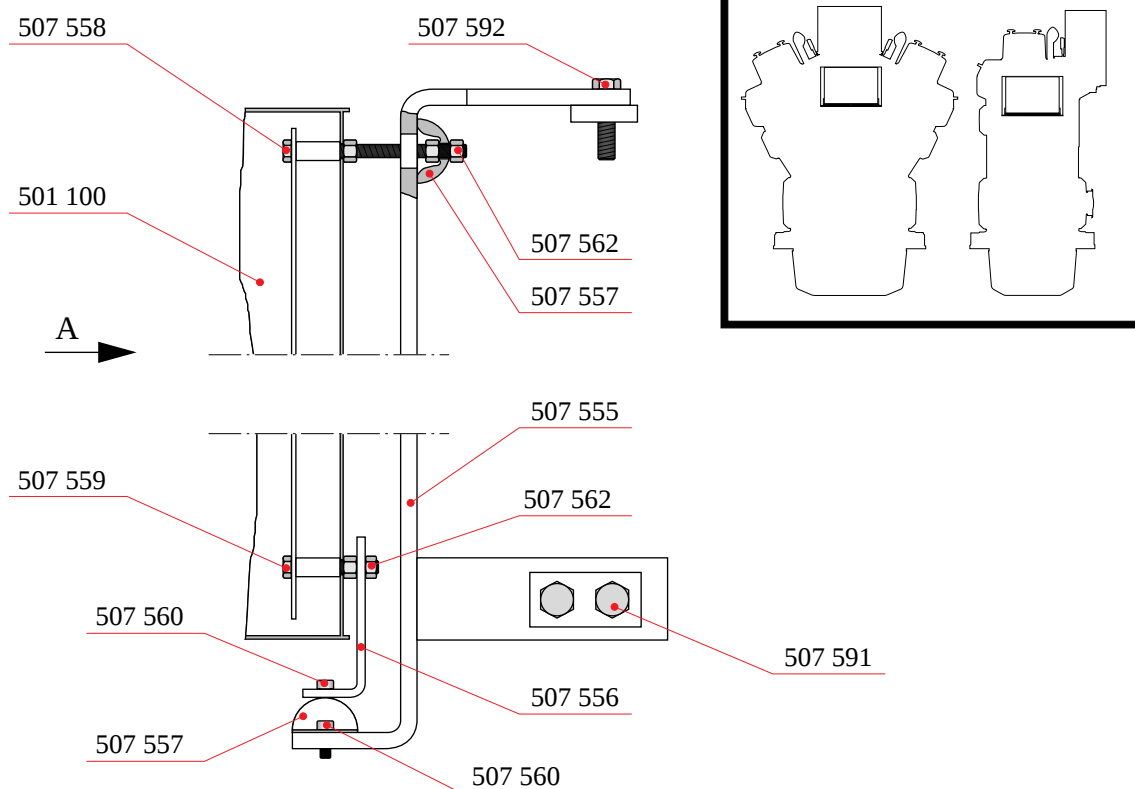


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
507 846	Adapter	1	-				
507 847	Reduction union	1	0.1				
507 848	Reduction union	1	-				
507 849	Pipe union	1	0.2				
507 850	Pipe	1	0.2				
507 851	Screw	2	-				
507 852	Pipe clamp	1	0.5				
507 856	Manometer union	1	-				
507 857	Labyrinth cup	1	0.1				
507 930	Connection piece	1	-				
507 931	Screw	1	-				
507 932	Cable (1)	1	0.2				
507 933	Sealing ring	1	-				
507 1011	Sleeve	1	-				
PT700	Pressure sensor	1	0.3				
387 020	Glue compound	1	-				

NOTE! (1) L= 6000mm

This page is intentionally left blank.

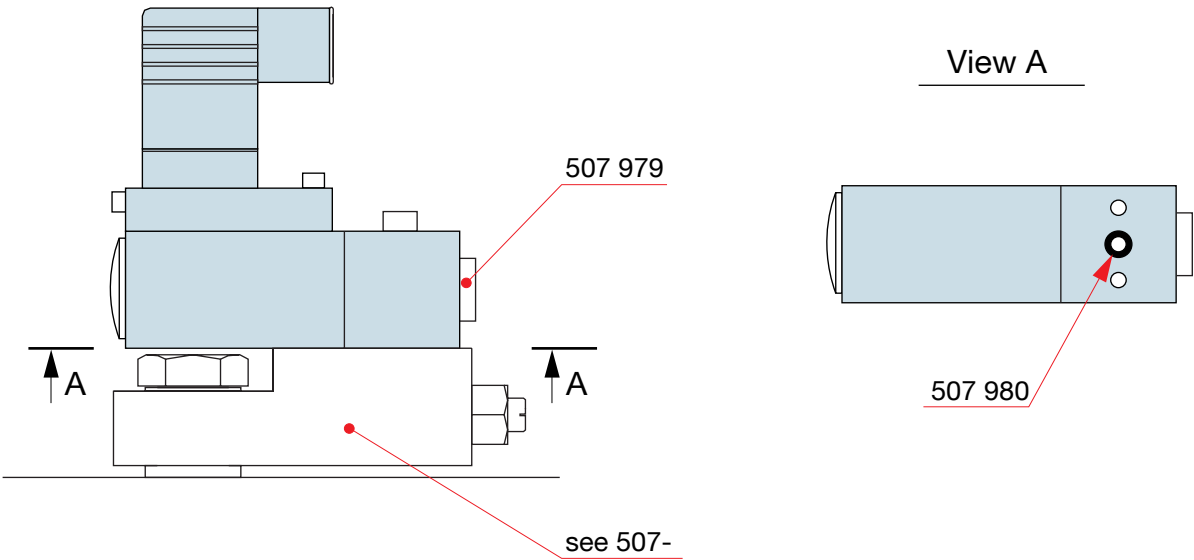
Flexible mounting of coupling box



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
501 100	Connecting box	1	25.0				
507 555	Bracket	1	-				
507 556	Bracket	1	2.2				
507 557	Rubber element	6	-				
507 558	Screw	3	-				
507 559	Screw	3	-				
507 560	Screw	15	-				
507 562	Nut	15	-				
507 591	Screw	4	-				
507 592	Screw	2	-				

This page is intentionally left blank.

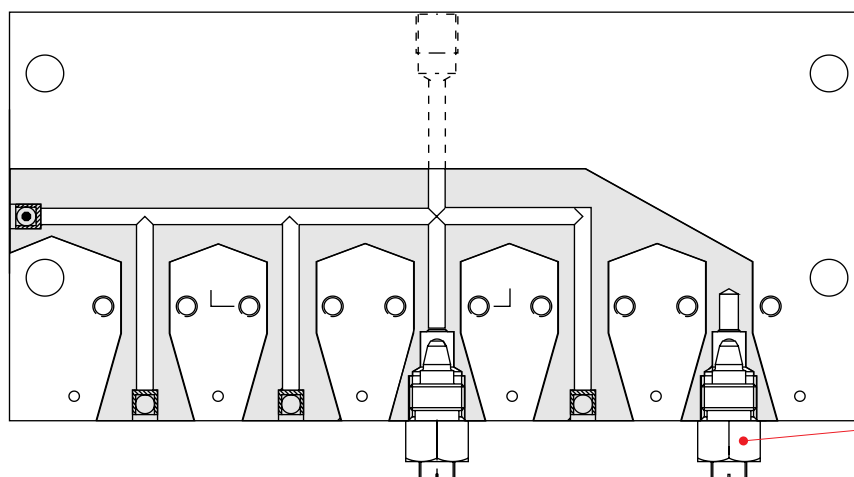
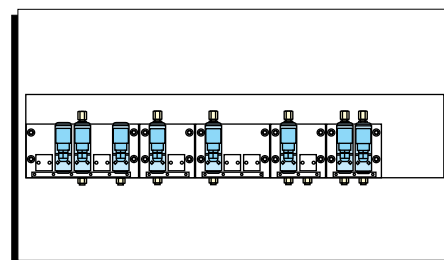
Equipment for pressure sensor



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
507 979	Plug	1	-				
507 980	O-ring	1	-				

This page is intentionally left blank.

Throttle valve



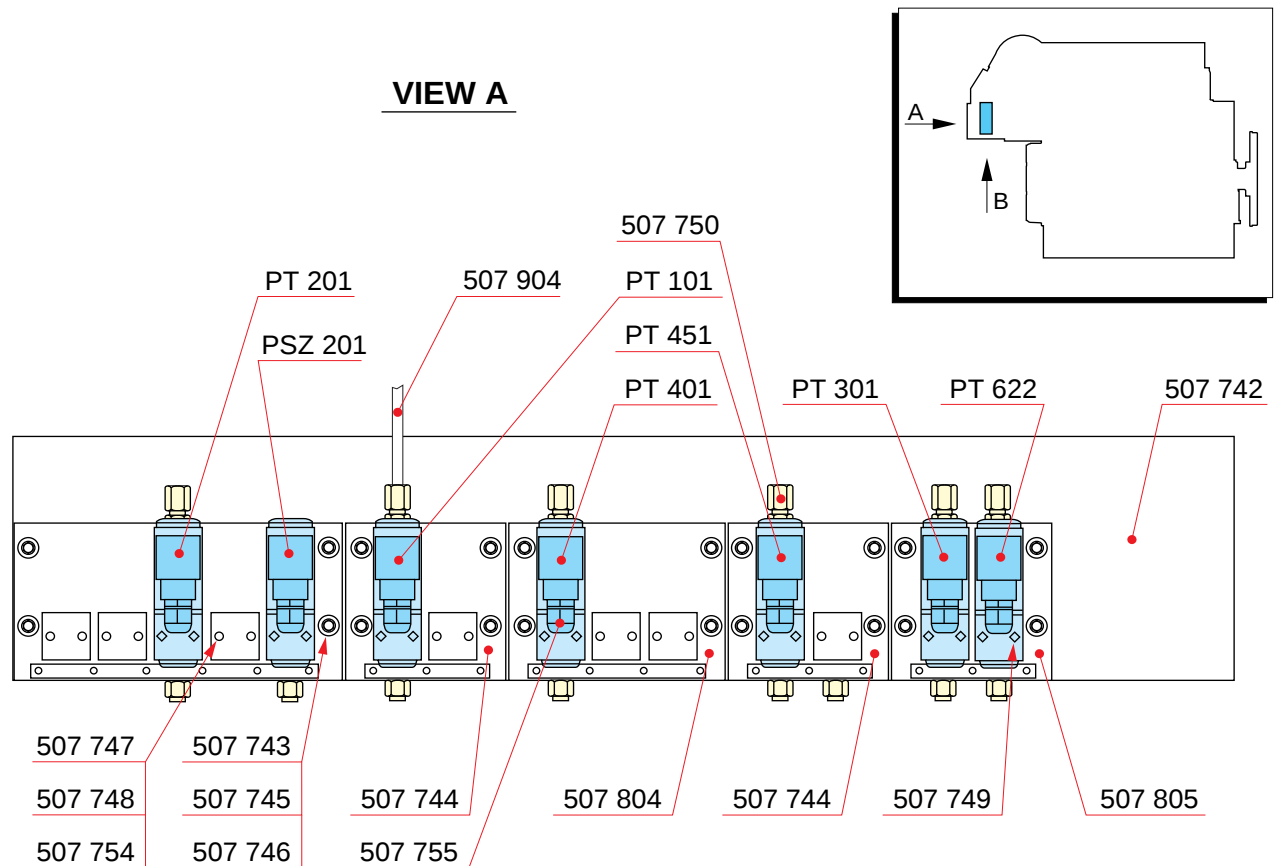
507 758

Part No.	Description	Qty [Pcs]	Wt. [Kg]
507 758	Valve	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Pressure sensors

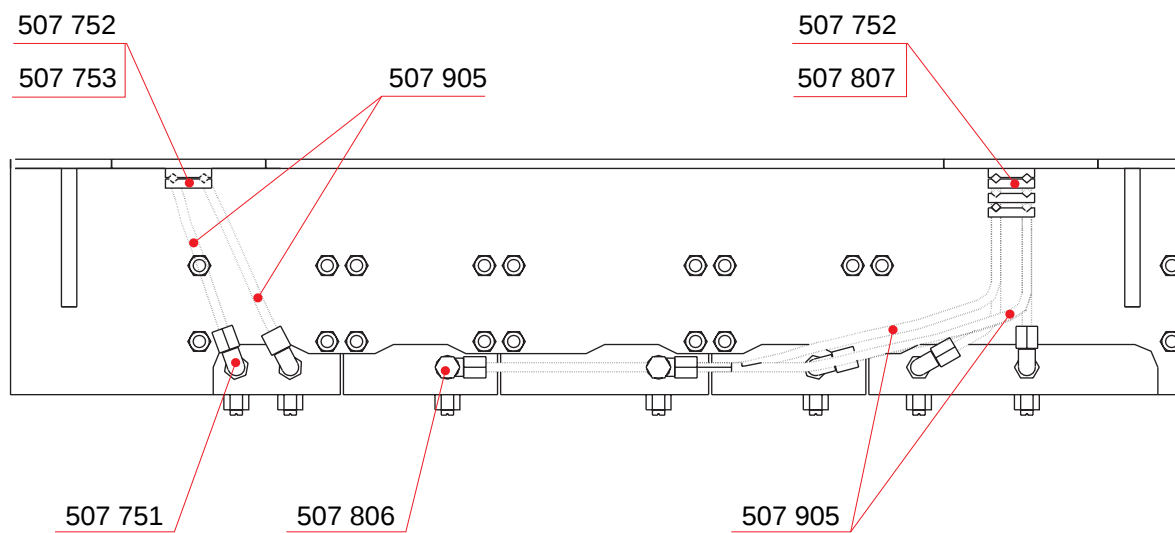


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
507 742	Bracket	1	-	NOTE!	(1) L= 6000mm		
507 743	Adapter and test valve	1	-				
507 744	Adapter and test valve	2	-				
507 745	Screw	20	-				
507 746	Nut	20	-				
507 747	End piece	7	-				
507 748	O-ring	7	-				
507 749	Screw	14	-				
507 750	Pipe union	6	-				
507 754	Screw	13	-				
507 755	Bush seal	8	-				
507 804	Adapter and test valve	1	-				
507 805	Adapter and test valve	1	-				
507 904	Pipe (1)	1	-				
PSZ201	Pressure sensor	1	-				
PT101	Pressure sensor	1	-				
PT201	Pressure sensor	1	-				
PT301	Pressure sensor	1	-				
PT401	Pressure sensor	1	-				
PT451	Pressure sensor	1	-				
PT622	Pressure sensor	1	-				

Edition: B
 Page: 2(3)
 Updated: 12.06.2002

Pressure sensors

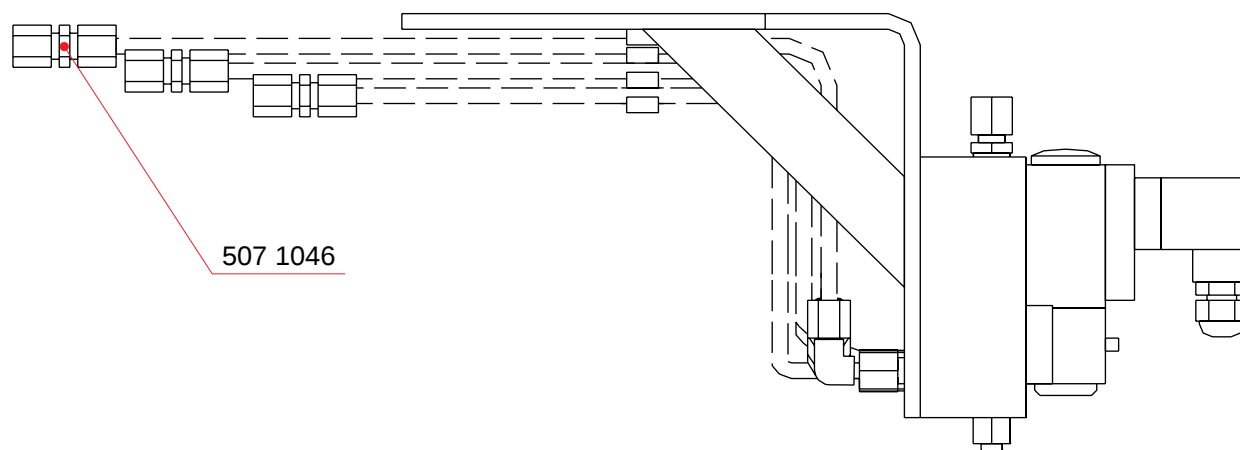
VIEW B



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
507 751	Pipe union	5	-				
507 752	Clamp	6	-				
507 753	Screw	1	-				
507 806	Pipe union	2	-				
507 807	Screw	1	-				
507 905	Pipe (2)	1	-				

NOTE! (2) L= 20m

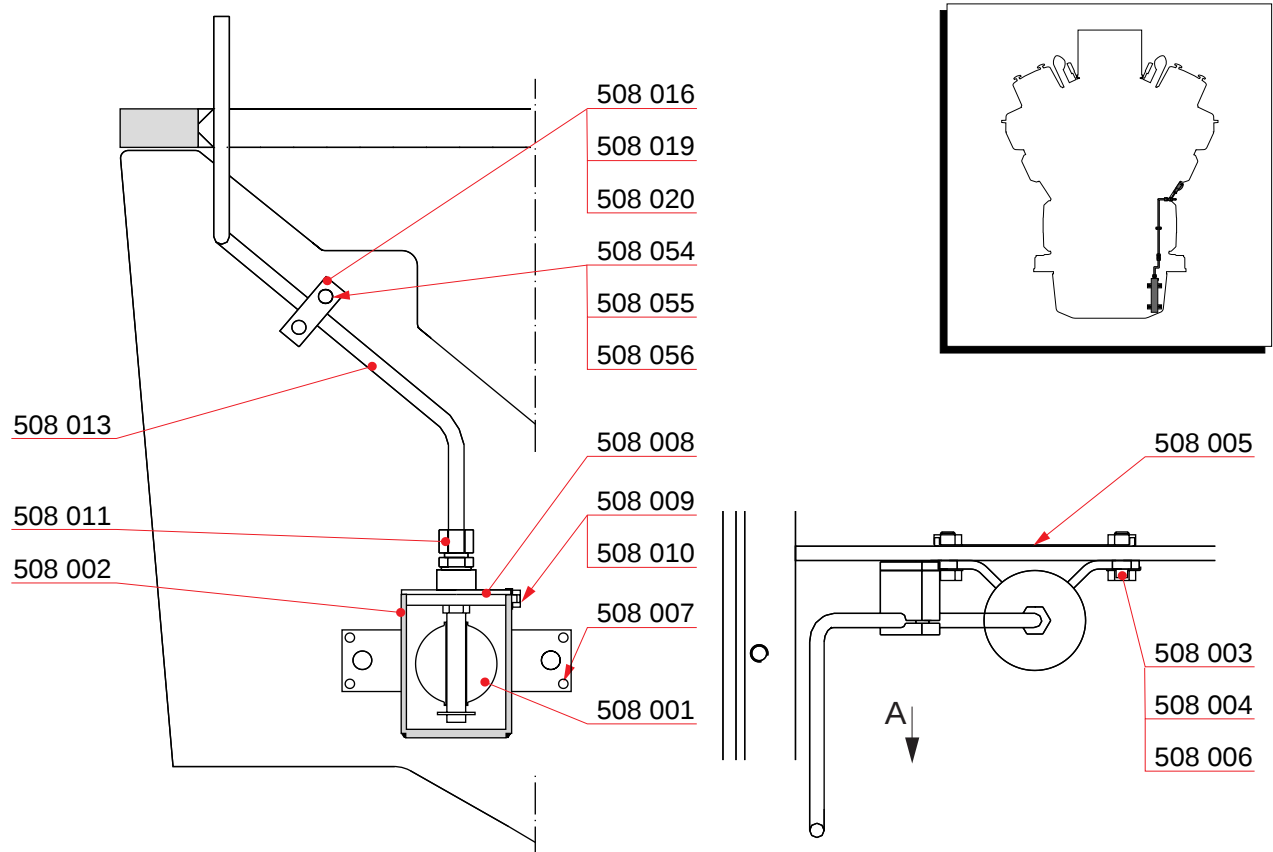
Pressure sensors



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
507 1046	Pipe union	7	-				

This page is intentionally left blank.

Lubricating oil alarm transducer



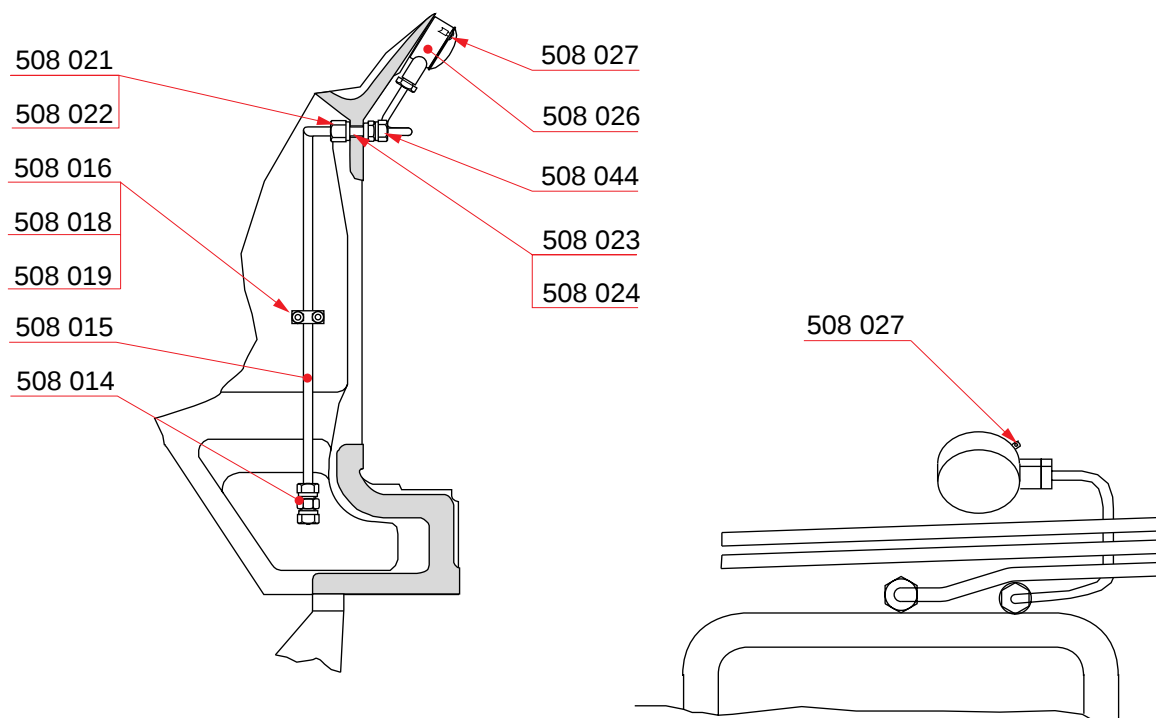
Part No.	Description	Qty [Pcs]	Wt. [Kg]
508 001	Level switch	1	0.2
508 002	Tank for alarm device	1	0.8
508 003	Screw	2	-
508 004	Nut	2	-
508 005	Locking plate	1	-
508 006	Locking plate	2	-
508 007	Spring pin	2	-
508 008	Cover	1	0.3
508 009	Screw	3	-
508 010	Locking plate	3	-
508 011	Pipe union	1	-
508 013	Protecting pipe	1	0.2
508 016	Pipe clamp	2	0.2
508 019	Locking plate	4	-
508 020	Distance piece	1	-
508 054	Nut	2	-
508 055	Screw	2	-
508 056	Washer	2	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Edition: B
 Page: 2(2)
 Updated: 04.02.2002

Lubricating oil alarm transducer

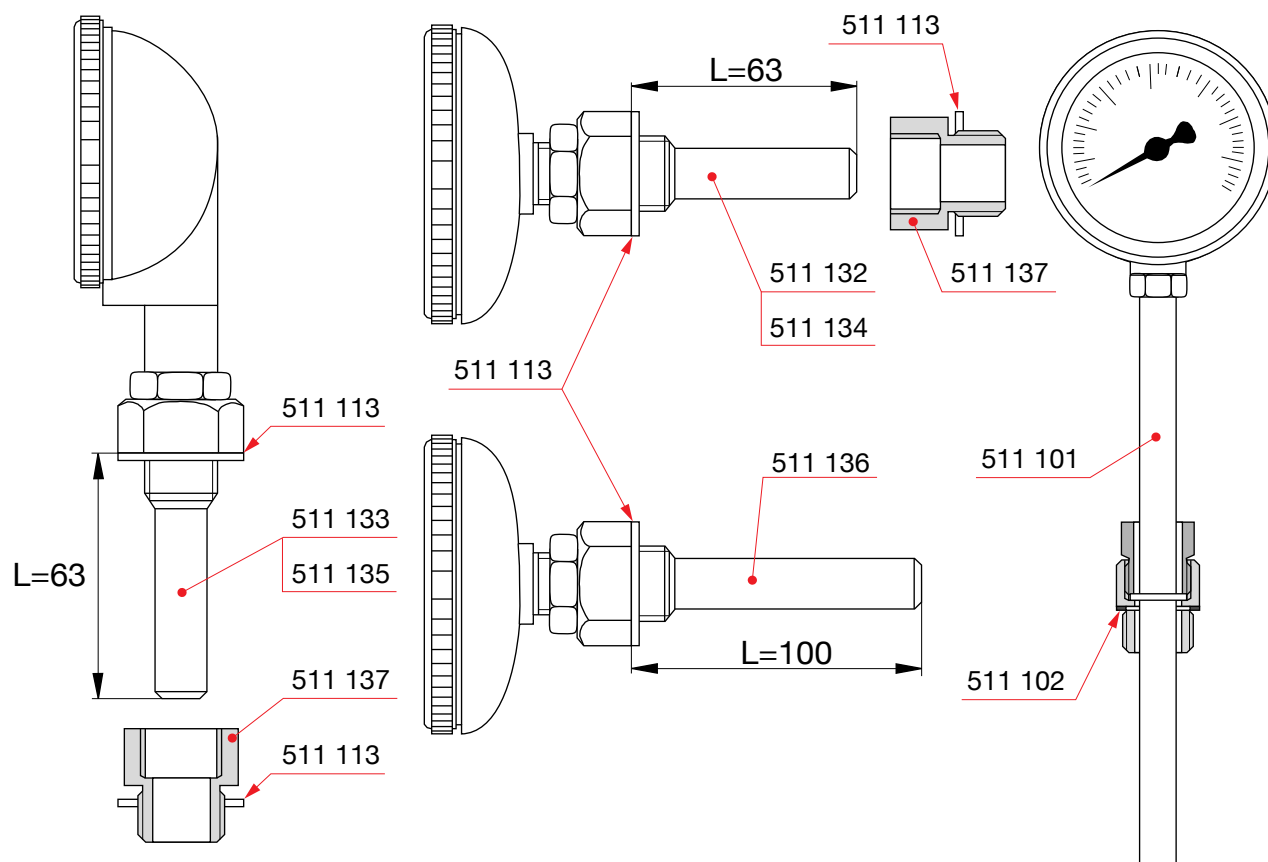
View A



Part No.	Description	Qty [Pcs]	Wt. [Kg]
508 014	Pipe union	1	-
508 015	Protecting pipe	1	0.3
508 016	Pipe clamp	2	0.2
508 018	Screw	2	-
508 019	Locking plate	4	-
508 021	Connecting nut	1	-
508 022	Cutting ring	1	-
508 023	Pipe union	1	0.2
508 024	Sealing ring	1	-
508 026	Terminal box	1	0.5
508 027	Screw	2	-
508 044	Pipe union	1	0.1

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Thermometers



Part No.	Description	Qty [Pcs]	Wt. [Kg]
511 101	Thermometer	*	-
511 102	Sealing ring	*	-
511 113	Sealing ring	**	-
511 132	Thermometer 0-120C	**	0.3
511 133	Thermometer 0-120C	**	0.4
511 134	Thermometer 0-200C	**	0.3
511 135	Thermometer 0-200C	**	-
511 136	Thermometer 0-120C	**	0.4
511 137	Extension piece	***	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

NOTE! * See page 2

NOTE! ** According to installation

NOTE! *** Extension piece is used only when a shorter thermometer (L=50 mm) is replaced by a new thermometer (L=63 mm).

Edition: C
Page: 2(2)
Updated: 02.08.1999

Thermometers

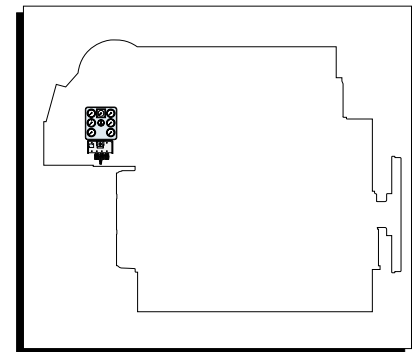
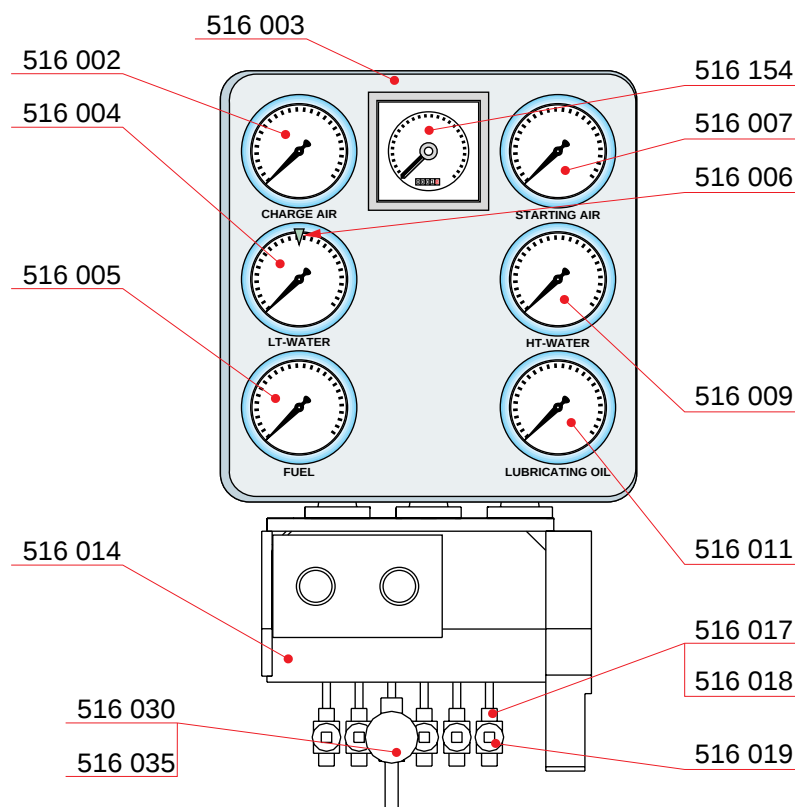
Quantity according to number of cylinders

Part No	Pieces						
	4R32	6R32	8R32	9R32	12V32	16V32	18V32
511 101	4	6	8	9	12	16	18
511 102	4	6	8	9	12	16	18

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

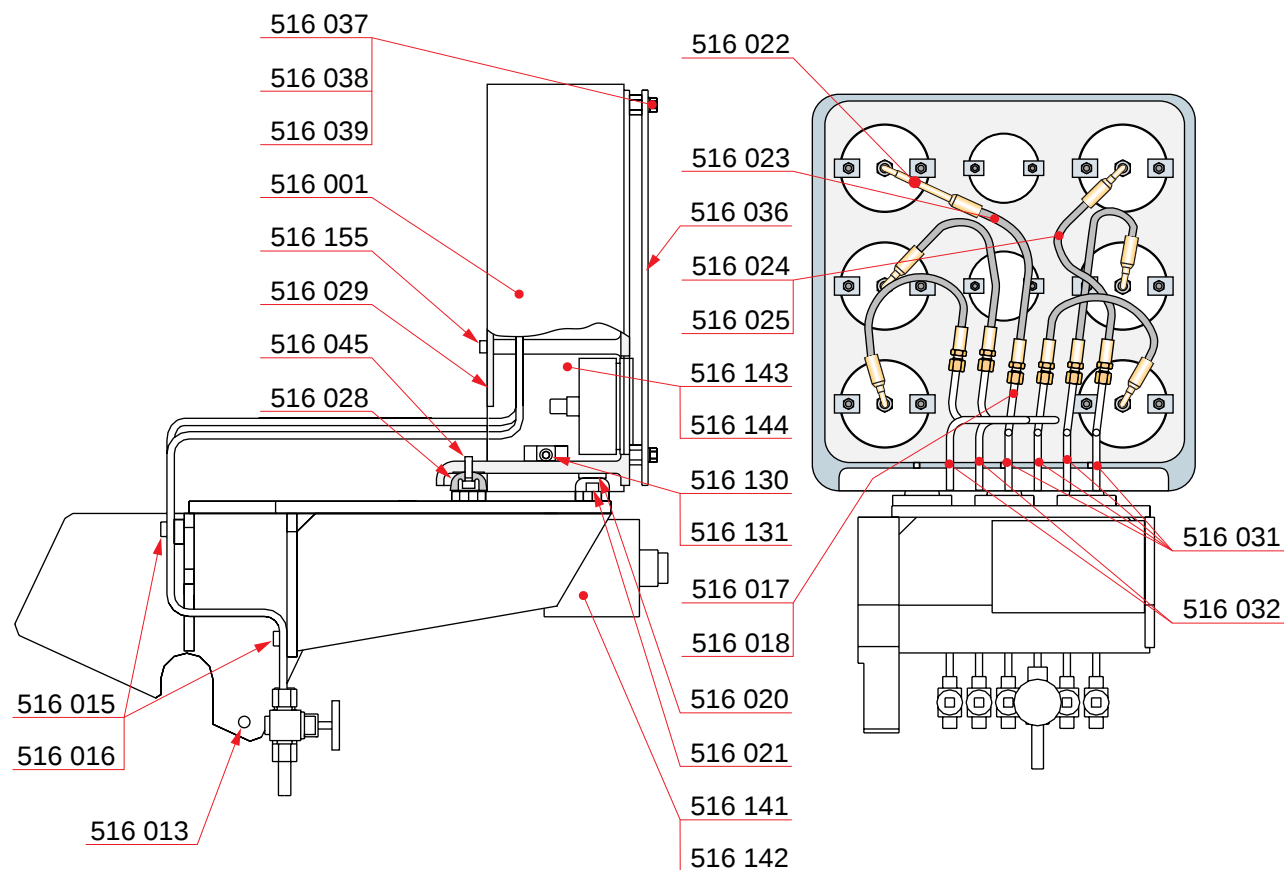
Instrument panel



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
516 002	Manometer	1	0.8				
516 003	Text plate	1	-				
516 004	Manometer	1	0.8				
516 005	Manometer	1	0.8				
516 006	Indicator	4	-				
516 007	Manometer	1	0.8				
516 009	Manometer	1	0.8				
516 011	Manometer	1	0.8				
516 014	Support	1	-				
516 017	Connection nut	23	-				
516 018	Cutting ring	23	-				
516 019	Valve	5	0.2				
516 030	Valve	1	0.2				
516 035	Pipe union	2	-				
516 154	Tachometer and hour counter	1	0.6				

Edition: D
 Page: 2(2)
 Updated: 04.04.2003

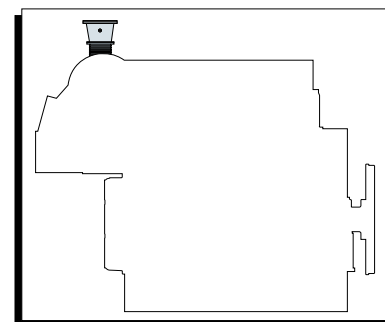
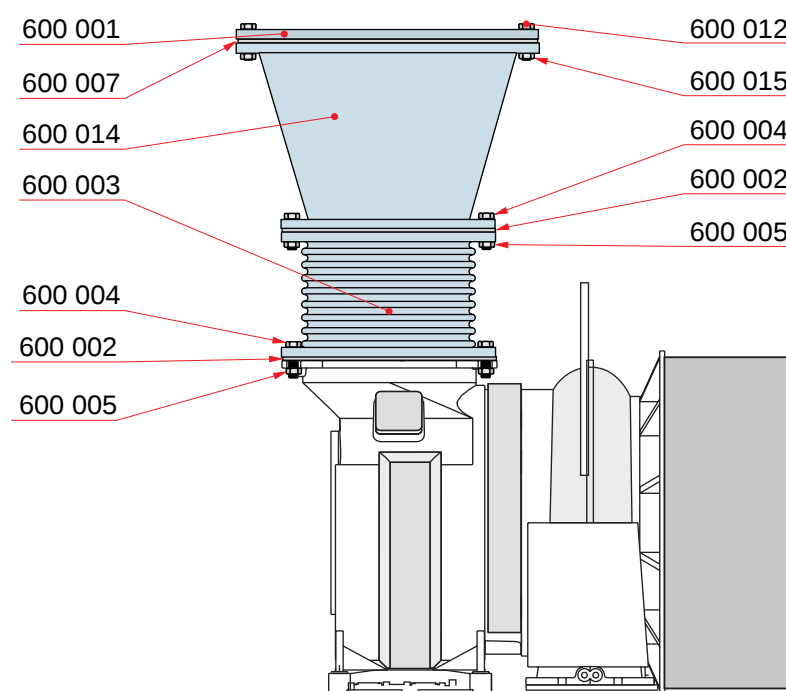
Instrument panel



Part No.	Description	Qty [Pcs]	Wt. [Kg]
516 001	Instrument panel	1	10.6
516 013	Screw	4	-
516 015	Pipe clamp	6	-
516 016	Screw	6	-
516 017	Connection nut	23	-
516 018	Cutting ring	23	-
516 020	Washer	2	-
516 021	Screw	6	0.3
516 022	Pipe	1	-
516 023	Hose	1	0.1
516 024	Hose	1	0.1
516 025	Hose	4	0.1
516 028	Vibration damper	3	-
516 029	Cover	1	2.9
516 031	Pipe	4	-
516 032	Pipe	2	-
516 036	Cover	1	0.5
516 037	Screw	4	-
516 038	Washer	4	-
516 039	Nut	4	-
516 045	Screw	3	-
516 130	Clamp	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
516 131	Screw	1	-
516 141	Screw	2	-
516 142	Box	1	1.2
516 143	Lock washer	12	-
516 144	Nut	12	-
516 155	Screw	6	0.3

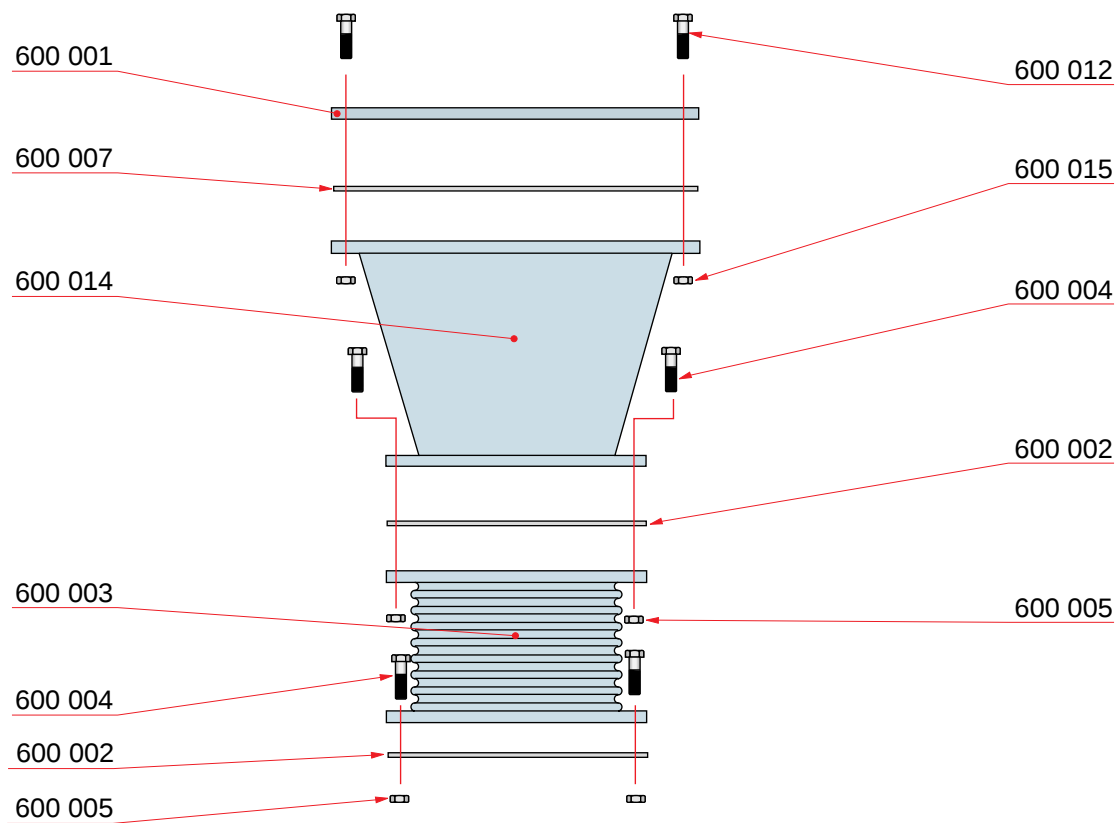
Connection piece for turbo/exhaust pipe



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
600 001	Flange	1	22.0				
600 002	Gasket	2	0.6				
600 003	Bellows	1	58.0				
600 004	Screw	40	0.3				
600 005	Nut	40	0.1				
600 007	Gasket	1	0.2				
600 012	Screw	24	0.3				
600 014	Connection piece	1	-				
600 015	Nut	24	0.1				

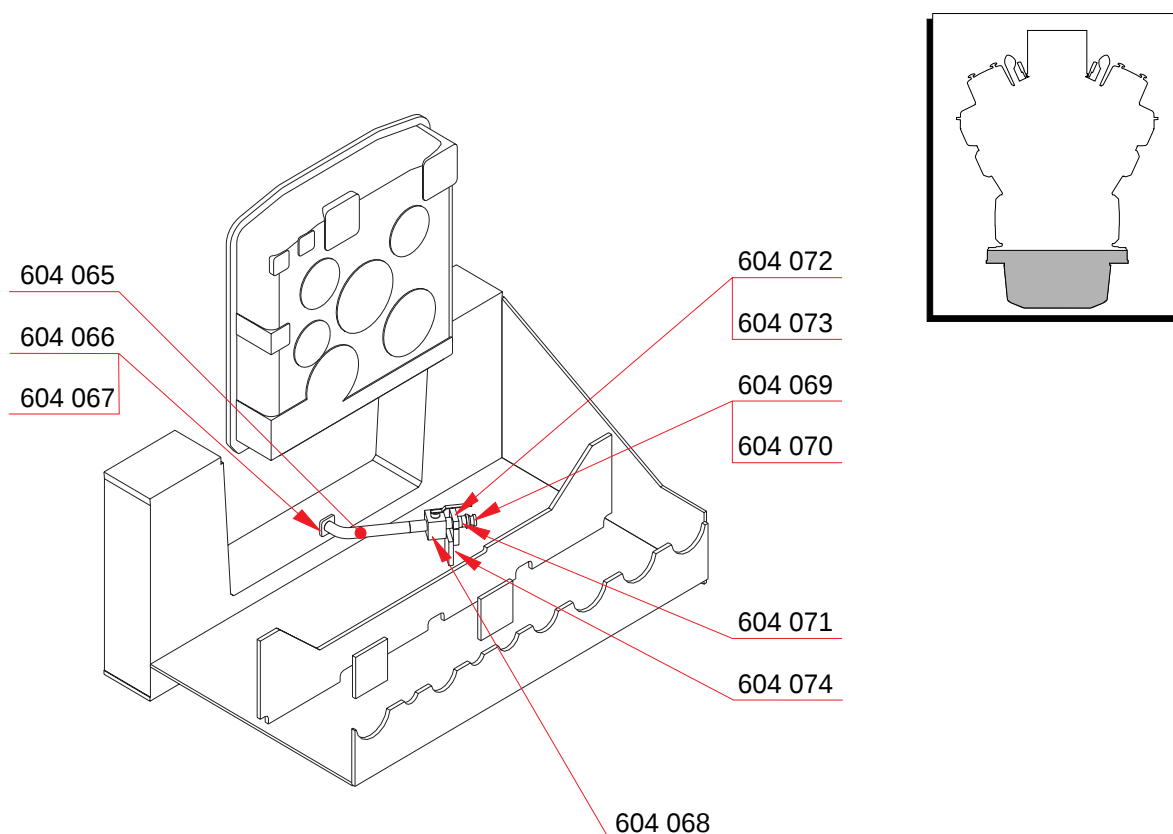
Edition: B
 Page: 2(2)
 Updated: 22.12.1999

Connection piece for turbo/exhaust pipe



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
600 001	Flange	1	22.0				
600 002	Gasket	2	0.6				
600 003	Bellows	1	58.0				
600 004	Screw	40	0.3				
600 005	Nut	40	0.1				
600 007	Gasket	1	0.2				
600 012	Screw	24	0.3				
600 014	Connection piece	1	-				
600 015	Nut	24	0.1				

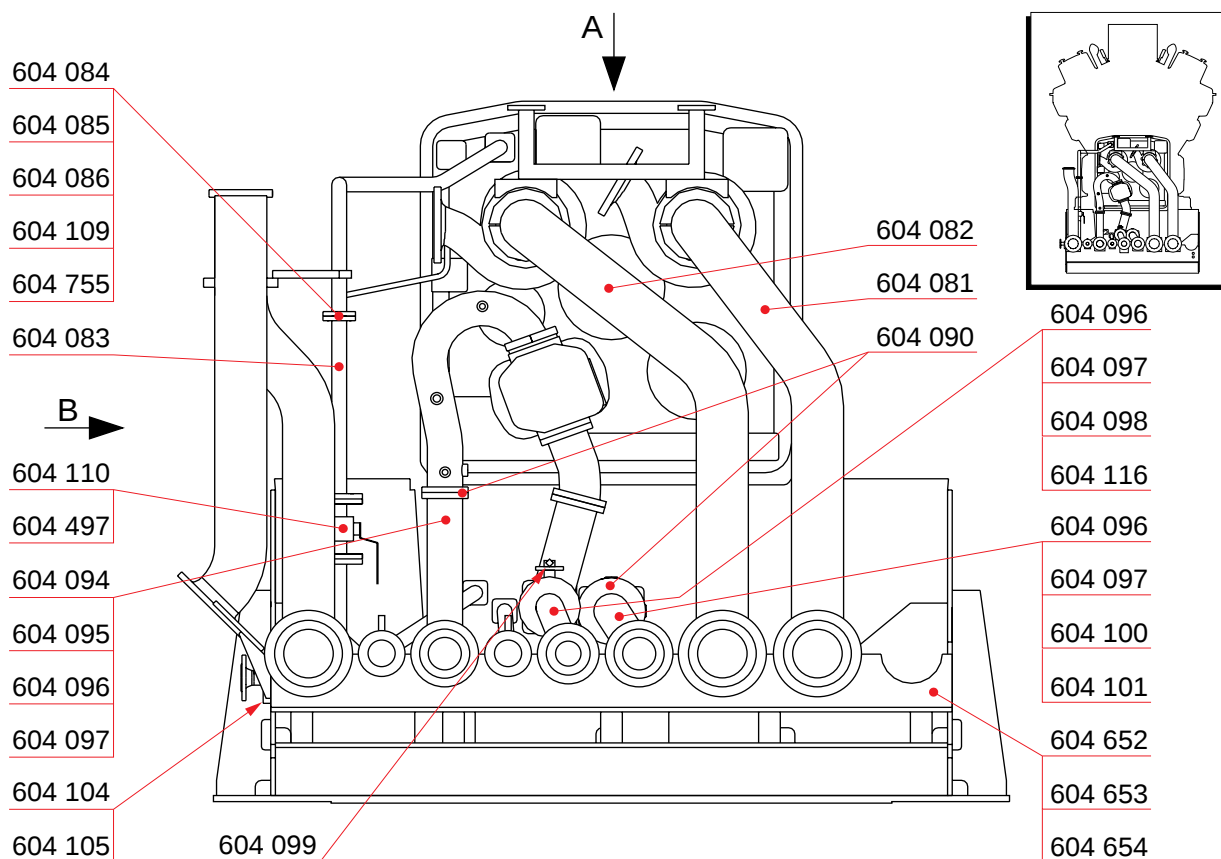
Drain pipe for oil sump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
604 065	Pipe	1	-				
604 066	O-ring	1	-				
604 067	Screw	4	-				
604 068	Valve	1	-				
604 069	Quick coupling	1	0.4				
604 070	Cap	1	0.3				
604 071	Double nipple	1	-				
604 072	Pipe clamp	1	3.8				
604 073	Screw	2	-				
604 074	Flat bar	1	-				

This page is intentionally left blank.

Accessories for common base plate

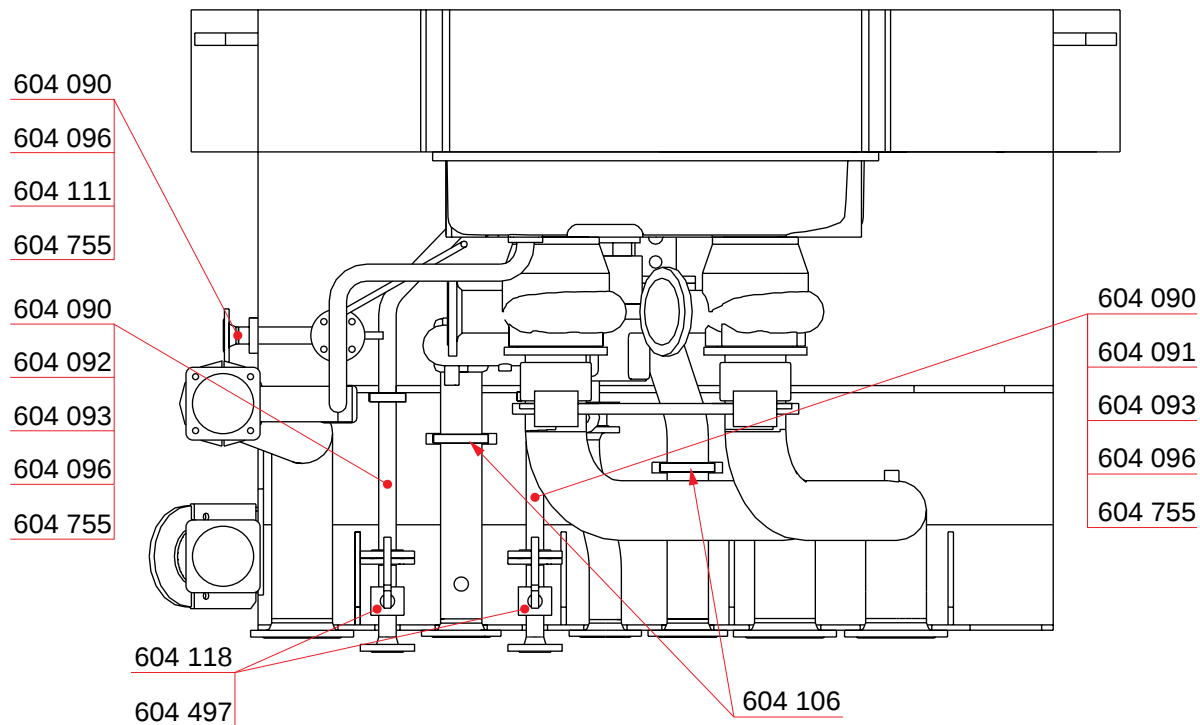


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
604 081	Pipe	1	-	604 653	Screw	10	0.4
604 082	Pipe	1	-	604 654	Washer	10	-
604 083	Pipe	1	-	604 755	Screw	4	0.2
604 084	Gasket	1	-				
604 085	Screw	7	-				
604 086	Nut	7	-				
604 090	Screw	28	0.1				
604 094	Pipe	1	-				
604 095	O-ring	1	-				
604 096	Nut	20	-				
604 097	Washer	20	-				
604 098	Pipe	1	-				
604 099	Valve	1	2.8				
604 100	Pipe	1	-				
604 101	Gasket	1	-				
604 104	Clamp	3	1.9				
604 105	Screw	10	-				
604 109	Washer	8	-				
604 110	Valve	1	6.2				
604 116	Screw	8	0.2				
604 497	Gasket	4	-				
604 652	Bracket	1	-				

Edition: A
 Page: 2(3)
 Updated: 28.08.2001

Accessories for common base plate

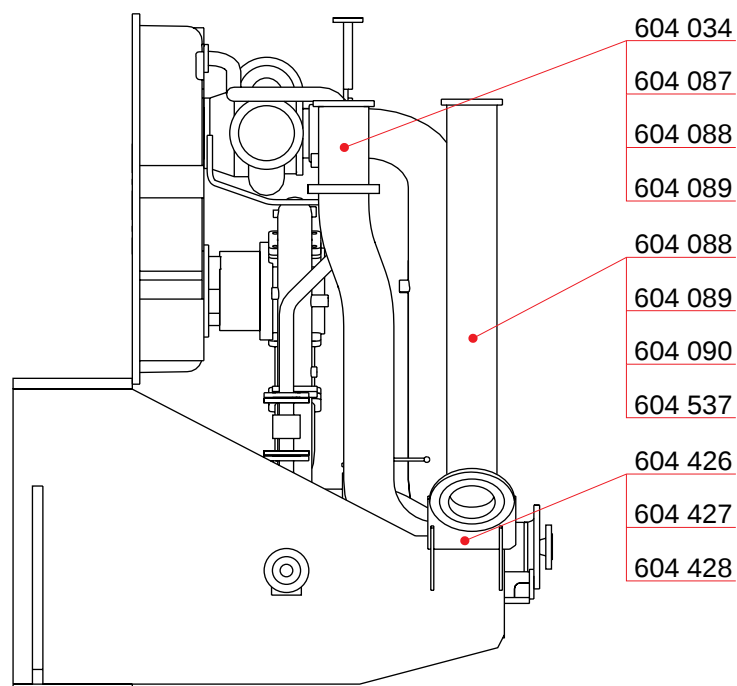
View A



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
604 090	Screw	28	0.1				
604 091	Pipe	1	-				
604 092	Pipe	1	-				
604 093	O-ring	2	-				
604 096	Nut	20	-				
604 106	Clamp	2	4.3				
604 111	Pipe	1	5.7				
604 118	Valve	2	6.8				
604 497	Gasket	4	-				
604 755	Screw	4	0.2				

Accessories for common base plate

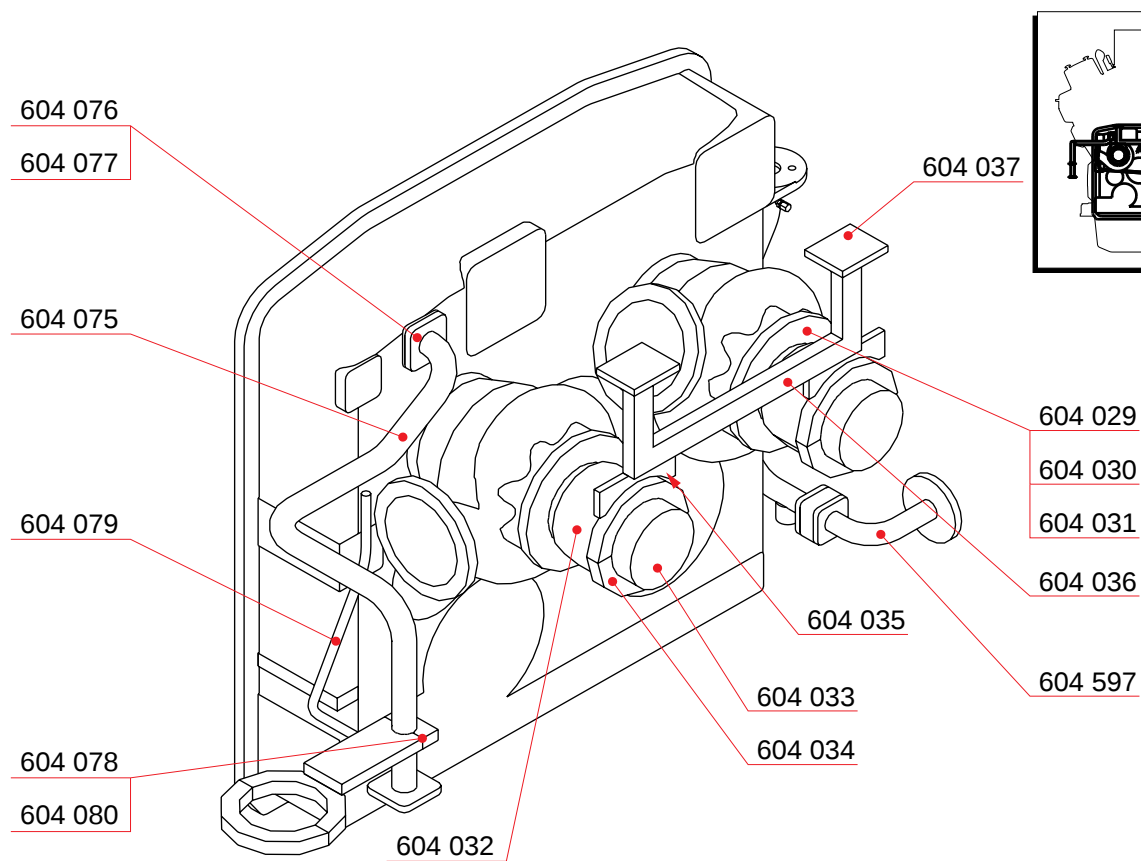
View B



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
604 034	Ring	1	-				
604 087	Pipe	1	-				
604 088	Gasket	2	-				
604 089	Screw	8	-				
604 090	Screw	28	0.1				
604 426	Support	1	-				
604 427	Screw	4	0.3				
604 428	Nut	4	-				
604 537	Pipe	1	-				

This page is intentionally left blank.

Accessories for engine

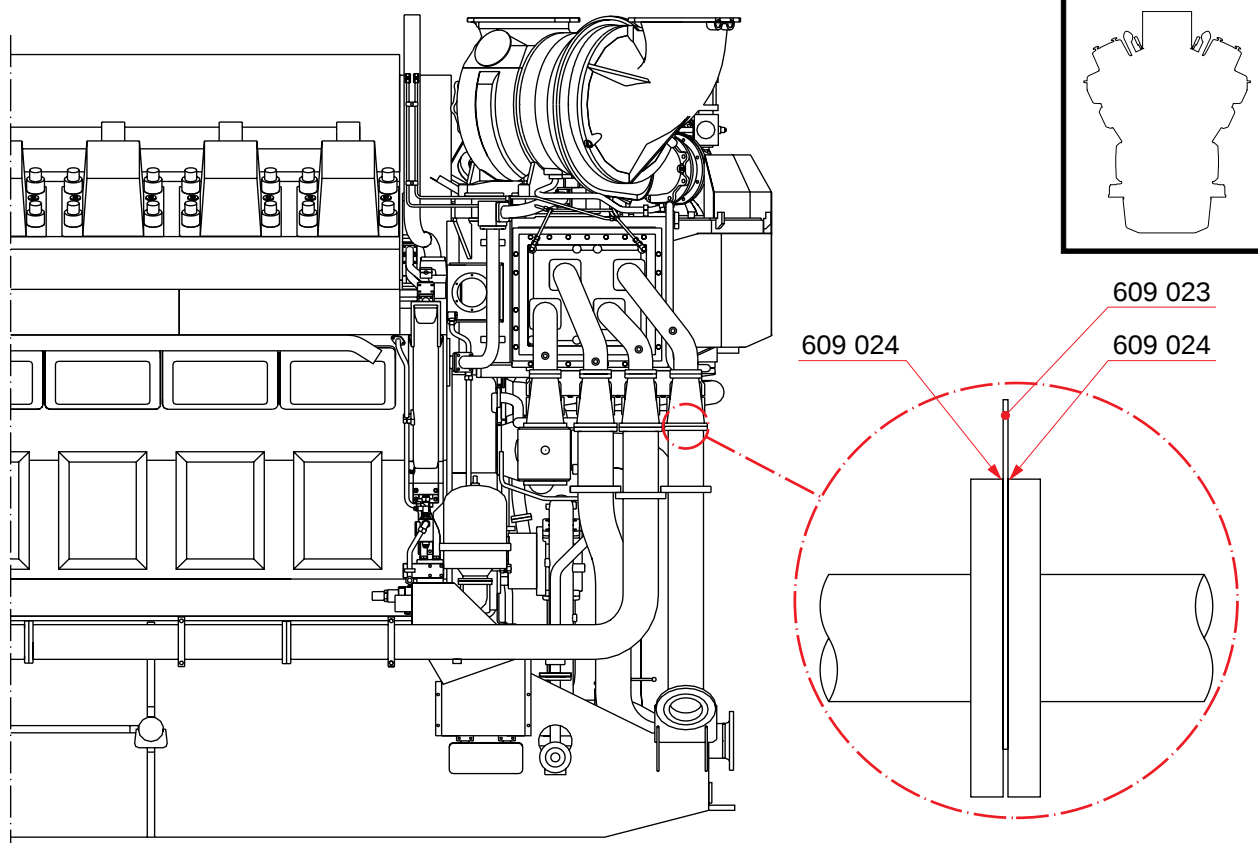


Part No.	Description	Qty [Pcs]	Wt. [Kg]
604 029	Pipe	2	8.5
604 030	Gasket	2	-
604 031	Screw	16	0.2
604 032	Pipe union	2	4.1
604 033	Pipe	2	2.6
604 034	Ring	2	5.0
604 035	Middle part	2	0.9
604 036	Bracket	1	13.5
604 037	Screw	8	-
604 075	Pipe	1	6.4
604 076	Gasket	1	-
604 077	Screw	4	-
604 078	Pipe clamp	1	4.4
604 079	Pipe	1	-
604 080	Screw	2	-
604 597	Pipe	1	-

Part No.	Description	Qty [Pcs]	Wt. [Kg]
----------	-------------	--------------	-------------

This page is intentionally left blank.

Orifice for 2-stage cooler



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
609 023	Restriction ring	1	-				
609 024	Gasket	2	-				

This page is intentionally left blank.
