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Page I

METERING PUMPS RB SERIES GROUP 64

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FOREWORD

Pumps of the RB series are fixed displacement metering pumps. They are available in a wide range of types so as to satisfy the different metering requirements.

The metering accuracy and the material quality of materials make our pumps safe and reliable.



Pompa RB a doppio effetto



Pompa RB a semplice effetto

RB pumps are made of stainless steel, whereas all parts that are in contact with the fluids are made of AISI 316, VITON, Teflon/Graphite (materials that make the product suitable for the use with chemical agents).

As RB pumps operate with plunger, the use of fluids without suspended ma-

terials is advisable (otherwise a filter must be used), whenever possible leaks through the stuffing box do not give raise to dangerous situations.

RB pumps are pneumatically operated. The servo control can be single or doubleacting.

The delivery is carried out once a cycle.

USE FIELDS

Our RB metering pumps can be used in all those fields, where a constant and precise metering is required (chemical industry, dyeing industry, and so on).

TECHNICAL CHARACTERISTICS

5 RB pump types are currently available: RB 25 – RB 30 – RB 43 – RB 50 – RB 62.

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- The connections towards the system are "GAS" threaded

TYPE	RB 25	RB 30	RB 43	RB 50	RB 62
GAS	3/8"	3/8"	3/8"	1/2"	3/4"
FITTING	MALE	MALE	MALE	FEMALE	FEMALE

- Basic versions : single-acting S.A. double-acting D.A.
- RB pumps can be used with all fluids that are compatible with the following materials: AISI 316, VITON, Teflon/Graphite.
- The operating temperature range of RB pumps is 0 to 145°C (when using PVC filter standing valves, the maximum temperature shall not exceed 50 °C).
- TABLES OF CONSUMPTION AND THRUSTS OF RB PUMPS

Air consumption in NI for each cycle – S.A.

Pressure bar	NI Consumption	Soft thrust – starting – Kg	Soft thrust – final – Kg	Suction final thrust Kg
6	0.717	190	120	110

Air consumption in NI for each cycle – D.A.

Pressure – bar	Suction	Delivery	Total
3	0.392	0.597	0.777
4	0.498	0.492	0.99
5	0.604	0.597	1.201
6	0.709	0.701	1.41

Qt = Q * n S.A.

D.A.

Qt = (Qa + Qm) * n

- Qt = Total consumption Q = S.A. consumption
- Qa = Suction consumption
- Qm = Delivery consumption
- n = Number of operations

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GRAPHIC OF S.A. – D.A. RB PUMP CAPACITIES

SE - DE RB PUMP CAPACITY







FITTINGS

As shown in the following picture pumps of the RB series can be fitted with an inductive proximity pickup, which indicates if the pump has completed the suction and delivery phases and, in general, allows to count the shots that have been carried out by the pump.





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FITTINGS

Back pressure valve Group 17	BACK PRESSURE FITTING		OGIVAL FITTINGS 3/8" 8/10 PIPE	OGIVAL FITTINGS 1/2" 10/12 PIPE		
	PIPE		8/10 PIPE		10/12	PIPE
	DELIVERY FITTING		FEMALE OGIVAL FITTINGS 3/8" 8/10 PIPE	OGIVAL FITTINGS 1/2" 10/12 PIPE	OGIVAL FITTINGS 3/4" 10/12 PIPE	
Check valves embodied in the pump		3/8" MALE	3/8" MALE	3/8" MALE	1/2" FEMALE	3/4" FEMALE
	PUMP	25	30	43	50	62
	SUCTION UNION	3/8" MALE	3/8" MALE	3/8" MALE	1/2" FEMALE	3/4" FEMALE
Filter standing valve Group 50	SUCTION FITTING		FEMALE OGIVAL FITTINGS 3/8" 8/10 PIPE	Ξ	OGIVAL FITTINGS 1/2" 10/12 PIPE	OGIVAL FITTINGS 3/4" 10/12 PIPE
	PIPE	8/10 PIPE			10/12 PIPE	
	FILTER FITTING		OGIVAL FITTINGS 1/2" 8/10 PIPE	OGIVAL FITTINGS 1/2" 10/12 PIPE		
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TYPES OF ASSEMBLY FOR RB PUMPS



In the types of assembly shown herewith, a filter standing valve has been fitted on the suction pipe, carrying out two main functions:

- it guarantees that solid matters present in the tank are not sucked
- while the pump is not running, it does not allow the suction pipe to be emptied (in this case, the filter standing valve must be vertical).

The delivery back pressure valve does not allow the pumped liquid to come back into the pump and guarantees that it reaches the user with the minimum pressure defined by the calibration of the valve itself.

In the RB 62 types, a 1/2" back pressure valve is assembled so as to guarantee that the fluid reaches the user.



In this type of assembly, a filter has been fitted on the suction pipe.

If the pump is located underneath the suction tank head, one filter only needs to be assembled. Otherwise, a check valve shall be assembled after the filter.

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RB PUMP OVERALL DIMENSIONS



	Ø A	в	6	П	E	E F		G	
	ØA	D	C	U	E	S.A.	D.A.	9	
RB 25	3/8 " MALE	115	161	55	76	302	289	69	
RB 30	3/8 " MALE	115	161	58	80	306	293	69	
RB 43	3/8 " MALE	130	168	58	80	306	293	84	
RB 50	1/2 " FEMALE	157	182	62	88	314	301	94	
RB 62	3/4 " FEMALE	192	199	70	96	322	309	118	

DWG. Nr. 940980

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TYPES OF RB PUMPS MANUFACTURED SINCE 1987







Position 1

<u>RB Pumps manufactured from 1987</u> to 1991

The RB pumps that have been manufactured up to 1991 were fitted with a servo control derived from the servo control of the SBS valves. RB 25-30-43-50 pumps were fitted with a 200 dia. servo control, whereas the RB 62 type was fitted with a 275 dia. servo control. Both simple and double-acting versions were available.

Position 2

RB pumps manufactured from 1991 to 1993

RB pumps that have been manufactured from 1991 to 1993 were fitted with a servo control derived from the servo control of the stainless steel valves. Both simple and double-acting versions were available.

The spare parts of these pumps are the same as those of pumps currently on stream.

Position 3

<u>RB pumps manufactured since</u> 1993

The pumps that have been manufacturing since 1993 are fitted with a servo control derived from the servo control of stainless steel valves. Unlike pumps under pos. 2, the simple-acting version is fitted with a visual device indicating the position of the pump piston. Both simple and double-acting versions are available.

DWG. Nr 990939





ASSEMBLY

- Air intake pipe diameter = 6 to 8 mm.
- Incoming air pressure = 6 bar for S.A. from 3 to 6 bar for D.A.
- Assemble the back pressure valve in the delivery position .
- The pump shall be assembled horizontally, keeping the suction and delivery pumps on a vertical position.
- Assemble the filter in the suction position, in particular if the products to be metered contain suspended solid matters.
- A proper maintenance and frequent washings are necessary whenever products that might crystallize are to be used.

START-UP

Though being the RB pumps of the self-priming type, when assembling the back pressure valve on the delivery position, start-up troubles might arise. Should this be the case, it is advisable to screw out the delivery valve and pour clean water on the head upper hole up to the overflow. Then, start-up the pump again.

FAILURES

In case of operation anomalies, the following operations shall be carried out:

- Screw out and check the suction and delivery valves, one at a time, carefully reassembling all the components after cleaning them. Replace the seat, whenever necessary.
- Check the suction filter, if any, and all the connection seals of the suction pipes.

TRANSPORT AND STORAGE

- Throughout the transport and the storage period the protection plugs present on the head connections shall not be removed, in order to prevent foreign matters from entering the pump, thus damaging it.
- The pump shall not be subject to crashes that might endanger the proper operation.





MAINTENANCE OF S.A. RB PUMPS (page10)

Numbers in brackets refer to the number of the detail as indicated in the pump cutaway view.

DISASSEMBLY – AIR SIDE

- Screw out the shaft stop nut (14).
- **CAUTION** : as the spring assembled inside the pump servo control is compressed, before screwing out the nuts (5) prearrange the locking of the servo control under press so as to keep the parts (3) and (7) steadily fastened one another.
- Remove washers (6)
- Remove the spring piston (3). This operation shall be easier if screws (18) and (12) are unloosen [to unloose screws (18) in the RB 62 types, the whole head shall be separated from the fastening hanger, unloosening the screws (19).]
- Remove the spring (36). ۲
- Separate the air side from the liquid side.
- Screw out the stroke indicator (50).
- Screw out the self-braking nut (24).
- Withdraw the piston washer (2).
- Withdraw the piston lock support (37).
- Withdraw the piston with TDUOP gasket (4) and the TDUOP support (25).
- Withdraw the drive shaft (23).
- Screw out the connection block (30). ۰
- Withdraw and replace the AS gasket (10). ۰
- Separate the pump intermediate body (7) from the pump bush (8).
- Remove and replace the O-ring (28) from the pump intermediate body (7). ۰
- Remove RULON washer lock (9).
- Remove and replace the piston skirt (29), the O-ring (27) and the NI gasket (26) from the pump bush (8).

MAINTENANCE AND ASSEMBLY - AIR SIDE

- Connect the pump intermediate body (7) with the pump bush (8).
- Insert RULON washer lock (9).
- Screw down the connection block (30).
- Insert the drive shaft (23) making sure that the shaft stop nut (14) has been previously assembled on the shaft.
- Insert the TDUOP support (25).
- Insert the piston with TDUOP gasket (4).

- Insert piston lock support (37). •
- Insert the piston support washer (2).
- Screw down the self-braking nut (24).
- Screw down the stroke indicator (50).
- Connect the air side to the liquid side.
- Tighten screws (12).
- Insert the spring (36) in the proper seat. •
- Insert the spring piston (3) and block it under a press. •
- Insert washers (6) and screw down nuts (5).
- Screw down the shaft stop nut (14). •
- Tighten the screws (18) [In the case of the RB 62 type, after tightening the screws (18), the whole head shall be connected to the fastening hanger (33) by means of screws (19).

DISASSEMBLY - LIQUID SIDE

- Screw out the shaft stop nut (14). •
- Screw out the screws (19).
- Separate the pump whole head from the fastening hanger (33).
- Withdraw the pump piston from the head (44). •
- Screw out the stuffing nut (49). •
- Remove and replace the O-ring (48) of the stuffing nut. .
- Remove and replace the stuffing box (43). •
- Screw out the check valve heads (38), both suction and delivery.
- Withdraw the check valve spring seats (40).

MAINTENANCE AND ASSEMBLY – LIQUID SIDE

- Carefully clean all components. •
- Reassemble the check valves on the pump carefully paying attention to assemble the components in the same original sequence and position. The spring (41) shall be assembled in the delivery check valve.
- Fit the stuffing nut (49). •
- Insert the pump piston (44) in the pump head (45), then tighten the stuffing nut (49). •
- Fasten the whole head to the fastening hanger (33) by means of the screws (19)
- Screw down the shaft stop nut (14).



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MAINTENANCE OF D.A. RB PUMPS (page13)

Numbers in brackets refer to the number of the detail as indicated in the pump cutaway view.

DISASSEMBLY – AIR SIDE

- Screw out the shaft stop nut (14).
- Screw out the nuts (5).
- Remove washers (6).
- Remove the spring piston (3). This operation shall be easier if screws (18) and screws (12) are unloosen [to unloose screws (18) in the RB 62 types, the whole head shall be separated from the fastening hanger, unloosening the screws (19).]
- Screw out the self-braking nut (53).
- Withdraw the economizer fastening screw (1) from the spring piston (3).
- Remove and replace the O-ring (21).
- Insert the economizer fastening screw (1) in the spring piston (3).
- Insert the stroke limiting device (22) and the plain washer (54) in the economizer fastening screw (1) and screw down the self-braking nut (53).
- Separate the air side from the liquid side. ٠
- Screw out the self-braking nut (24).
- Withdraw the piston washer (2).
- Withdraw the piston with TDUOP gasket (4) and the TDUOP support (25).
- Withdraw the drive shaft (23).
- Screw out the connection block (30).
- Withdraw and replace the AS gasket (10).
- Separate the pump intermediate body (7) from the pump bush (8).
- Remove and replace the O-ring (28) from the pump intermediate body (7).
- Remove RULON washer lock (9).
- Remove and replace the piston skirt (29), the O-ring (27) and the NI gasket (26) from the pump bush (8).

MAINTENANCE AND ASSEMBLY – AIR SIDE

- Connect the pump intermediate body (7) with the pump bush (8).
- Insert the RULON washer lock (9).
- Screw down the connection block (30).
- Insert the drive shaft (23) making sure that the shaft stop nut (14) has been previously assembled on the shaft.

- Insert the support for the TDUOP (25). ٠
- Insert the piston with TDUOP gasket (4).
- Insert the piston washer (2).
- Screw down the self-braking nut (24).
- Connect again the air side to the liquid side.
- Tighten screws (12).
- Insert the spring piston (3).
- Insert washers (6) and screw down nuts (5).
- Screw down the shaft stop nut (14).
- Tighten screws (18) [In the case of the RB 62 type, after tightening the screws (18), the whole head shall be connected to the fastening hanger (33) by means of screws (19).

DISASSEMBLY - LIQUID SIDE

- Screw out the shaft stop nut (14).
- Screw out the screws (19).
- Separate the pump whole head from the fastening hanger (33).
- Withdraw the pump piston from the head (44).
- Screw out the stuffing nut (49).
- Remove and replace the O-ring (48) of the stuffing nut.
- Remove and replace the stuffing box (43).
- Screw out the check valve heads (38), both suction and delivery.
- Withdraw the check valve spring seats (40).

MAINTENANCE AND ASSEMBLY - LIQUID SIDE

- Carefully clean all components.
- Reassemble the check valves on the pump carefully paying attention to assemble the components in the same original sequence and position. The spring (41) shall be assembled in the delivery check valve.
- Fit the stuffing nut (49).
- Insert the pump piston (44) in the pump head (45), then tighten the stuffing nut (49).
- Fasten the whole head to the fastening hanger (33) by means of the screws (19)
- Screw down the shaft stop nut (14).





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D.A. 25-62 RB PUMPS - SECTION PLANE







2 1 Piston washer Fe 360 671 RAD023 3 1 Spring piston AlSI 304 661 NPM08035 4 1 gacket STEL 566 TDUOP8073 5 4 Nut AlSI 304 501 D12055884 6 4 Washer AlSI 304 503 RE1200304 7 1 Pump inermediate body AlSI 304 797 PSED931089 8 1 Pump inermediate body AlSI 304 703 RDD092802 10 1 AS gacket GACO 511 GDA300124 11 2 Distance ring AlSI 304 500 VTE060004 13 2 Washer AlSI 304 503 RE0600304 - 14 1 Shaft stop nut AlSI 304 773 RE2691415 - 16 1 Sensor detection washer Fe 360 770 RE200004 VTE060504 VTE060504 VTE060504 <t< th=""><th>DETAIL Nr.</th><th>Q.ty</th><th>DESCRIPTION</th><th>MATERIAL</th><th>GROUP</th><th>RB 25</th><th>RB 30</th><th>RB 43</th><th>RB 50</th><th>RB 62</th></t<>	DETAIL Nr.	Q.ty	DESCRIPTION	MATERIAL	GROUP	RB 25	RB 30	RB 43	RB 50	RB 62	
3 1 Spring piston AISI 304 661 NPMB0035 4 1 Piston with TOUOP gasket STEEL S66 501 D12055884 TUUOP8073 5 4 Nut AISI 304 501 D12055884 TUUOP8073 6 4 Washer AISI 304 503 RETURN PSE033069 TUUOP8073 7 1 Pump intermediate body AISI 304 ASTM-A105 784 RB2591418 TO 9 1 RULON washer lock BRASS 703 RD028002 TO 10 1 AS gasket GACO 511 GDAs00124 TO 12 2 Serrew AISI 304 500 VTE062004 TO 13 2 Washer AISI 304 503 RE0803304 TO 14 1 Sensor detection washer Fe 360 773 RE080304 VTE062004 14 4 Serew AISI 304 503 RE080304 VTE066004 VTE066604	2	1	Piston washer	Fe 360	671		-	RAD087234	-		
4 1 Piston with TDUOP gasket NRR STEEL 566 TDUOP8073 5 4 Nut AISI 304 501 DT2055884 6 4 Washer AISI 304 503 RE1200304 7 1 Pump intermediate body AISI 304 797 PSED831089 8 1 Pump Dush ASTMA105 784 RB2591418 9 1 RULON washer lock BRASS 703 RDD002802 10 1 AS gasket GACO 511 GDA500124 11 2 Distance ring AISI 304 503 RE6600304 14 1 Shaft stop nut AISI 304 503 RE6000304 TC062004 15 1 Connection block AISI 304 503 RE6000304 TE06091417 16 1 Senew AISI 304 503 RE0800304 TE066004 TE066004 18 4 Screw AISI 304 503 RE0800304 RE08	3	1	Spring piston	AISI 304	651			NPMD88035			
5 4 Nut AISI 304 501 D1205584 6 4 Washer AISI 304 503 RE1200304 7 1 Pump intermediate body AISI 304 797 PSED831089 8 1 Pump bush ASTM-A105 784 RB2591418 9 1 RULON washer lock BRASS 703 RDD092802 10 1 AS gasket GACO 511 GDDA500124 11 2 Distance ring AISI 304 503 RED600304 12 2 Screw AISI 304 503 RED600304 14 1 Sansor detection washer Fe 380 703 RD091417 17 4 Washer AISI 304 503 RE060304 VTE066004 18 4 Screw AISI 304 503 RE060304 VTE06604 19 2 Scraw AISI 304 503 RE060304 VTE06604 24 Self-braking nut<	4	1	Piston with TDUOP gasket	NBR STEEL	566		TDUOP8073				
6 4 Washer AISI 304 503 PEE0931089 7 1 Pump intermediate body AISI 304 797 PSE0931089 8 1 Pump bush ASTMA106 784 RB2591418 9 1 RULON washer lock BRASS 703 RD002802 10 1 AS gasket GACO 511 GDAS00124 11 2 Distance ring AISI 304 503 RE0600304 12 2 Screw AISI 304 503 RE0600304 TE062004 13 2 Washer AISI 304 503 RE0600304 TE062004 14 1 Straft stop nut AISI 304 503 RE0600304 TO 16 1 Sensor detection washer Fe 300 703 RE0600304 TE066604 VTE066004 VTE066004 VTE066004 VTE066004 VTE066004 VTE066004 VTE066004 VTE066004 RE06 20 2 Washer AISI 304 <td>5</td> <td>4</td> <td>Nut</td> <td>AISI 304</td> <td>501</td> <td colspan="5">D12055884</td>	5	4	Nut	AISI 304	501	D12055884					
7 1 Pump intermediate body AIS 104 777 PSED931089 8 1 Pump bush ASTM-A105 784 RB2591418 9 1 RULON washer lock BRASS 703 RDD092602 10 1 AS gasket GACO 511 GDAS00124 11 2 Distance ring AISI 316 522 NDID91421 12 2 Screw AISI 304 503 RE060304 13 2 Washer AISI 304 503 RED0091416 15 1 Connection block AISI 304 503 RED00304 VTE060264 VTE0 18 4 Screw AISI 304 503 RE0030304 VTE066504 VTE066604 VTE0 20 2 Washer AISI 304 503 RE0803034 RE08 23 1 Drive shaft AISI 304 503 RE060304 VTE066504 VTE0 24 1 Selb-braking nut	6	4	Washer	AISI 304	503			RE1200304			
8 1 Pump bush ASTM-A105 764 RB2591418 9 1 RULON washer lock BRASS 703 RDD992802 10 1 AS gasket GACO 511 GDAS00124 11 2 Distance ring AISI 304 500 VTE062004 12 2 Screw AISI 304 503 RE0600304 14 1 Shaft stop nut AISI 304 503 RE0600304 14 1 Screw AISI 304 503 RE0800304 15 1 Connection block AISI 304 503 RE0800304 16 4 Screw AISI 304 503 RE0800304 18 4 Screw AISI 304 503 RE0600304 RE06 20 2 Washer AISI 304 787 RB2591420 21 1 Drive shaft AISI 304 787 RB2591420	7	1	Pump intermediate body	AISI 304	797			PSED931089			
9 1 RULON washer lock BRASS 703 RDD092802 10 1 AS gasket GACO 511 GDAS00124 11 2 Distance ring AISI 316 522 NDIDB1421 12 2 Screw AISI 304 500 VTE062004 13 2 Washer AISI 304 503 RE060304 14 1 Shaft stop nut AISI 304 777 RB2591415 16 1 Sensor detection washer Fe 360 703 RD0091417 17 4 Washer AISI 304 503 RE0803034 VTE066004 19 2 Screw AISI 304 503 RE0800304 RE08 23 1 Drive shaft AISI 304 503 RE0291420 RE02 24 1 Self-braking nut Fe 380 576 D06AUTOFE 25 25 1 Nil gasket GACO 548 OR03143GA 2	8	1	Pump bush	ASTM-A105	784			RB2591418			
10 1 AS gasket GACO 511 GDAS00124 11 2 Distance ring AISI 316 522 NDID91421 12 2 Screw AISI 304 500 VTE062004 13 2 Washer AISI 304 503 RE0600304 14 1 Shaft stop nut AISI 304 777 RB2591415 15 1 Connection block AISI 304 503 RE0600304 VTE06504 17 4 Washer AISI 304 503 RE0800304 VTE066604 VTE066604 VTE066604 VTE066604 VTE066604 VTE066504 VTE066504<	9	1	RULON washer lock	BRASS	703			RDD092802			
11 2 Distance ring AISI 316 522 NDID91421 12 2 Screw AISI 304 500 VTE062004 13 2 Washer AISI 304 503 RE0600304 14 1 Shaft stop nut AISI 304 777 RB2591415 15 1 Connection block AISI 304 503 RE0600304 16 1 Sensor detection washer Fe 360 703 RDD091417 17 4 Washer AISI 304 503 RE0600304 VTE066504 VTE066504 VTE0666004 VTE0666004 VTE0666004 RE08 23 1 Drive shaft AISI 304 767 RB2591420 RE08 24 1 Self-braking nut Fe 360 576 D08AUTOFE RE09 25 1 Support for TDUOP ASTM-A105 545 AFD0932610 AFD0932610 26 1 Niggasket GACO 548 OR03143GA AST	10	1	AS gasket	GACO	511			GDAS00124			
12 2 Screw AISI 304 500 VTE062004 13 2 Washer AISI 304 503 RE0600304 14 1 Shaft stop nut AISI 304 573 PDED91416 15 1 Connection block AISI 304 777 RB2591415 16 1 Sensor detection washer Fe 360 703 RE0800304 VTE066004 VTE066004 VTE066004 VTE066604 VTE066004 VTE066604 VTE066604 VTE066604 VTE066004 VTE060004 E808 20000110 E80291420 E80291420 E80291420	11	2	Distance ring	AISI 316	522			NDID91421			
13 2 Washer AISI 304 503 RE0600304 14 1 Shaft stop nut AISI 316 734 PDED91416 15 1 Connection block AISI 304 777 RB2591415 16 1 Sensor detection washer Fe 360 703 RED0091417 17 4 Washer AISI 304 551 TCCE08254 VTE066004 18 4 Screw AISI 304 503 RE0800304 VTE066054 VTE066004 VTE066504 VTE066504 VTE066004 RE08 20 2 Washer AISI 304 503 RE0600304 RE08 RE08 23 1 Drive shaft AISI 304 787 RB2591420 RE08 24 1 Self-braking nut Fe 360 576 D08AUTOFE Self-braking nut Fe 360 576 D08AUTOFE Self-braking nut Fe 360 576 D08AUTOFE Self-braking nut RE0210 Self-braking nut RE0301433G RE031420 </td <td>12</td> <td>2</td> <td>Screw</td> <td>AISI 304</td> <td>500</td> <td></td> <td></td> <td>VTE062004</td> <td></td> <td></td>	12	2	Screw	AISI 304	500			VTE062004			
14 1 Shaft stop nut AISI 316 734 PDED31416 15 1 Connection block AISI 304 777 RB2591415 16 1 Sensor detection washer Fe 360 703 RDD091417 17 4 Washer AISI 304 503 RE0800304 VTE066554 18 4 Screw AISI 304 500 VTE0660544 VTE066004 VTE066504 VTE066504 20 2 Washer AISI 304 503 RE0800304 RE08 23 1 Drive shaft AISI 304 503 RE0600304 RE08 24 1 Self-braking nut Fe 360 576 D08AUTOFE 25 25 1 Support for TDUOP ASTM-A105 545 AFD092610 364 26 1 O-Ring gasket GACO 548 OR03143GA 364 27 1 O-Ring gasket GACO 548 OR03300GA 301 28	13	2	Washer	AISI 304	503			RE0600304			
15 1 Connection block AISI 304 777 RB259143 15 1 Connection block AISI 304 777 RDD091417 17 4 Washer AISI 304 503 RE0800304 VT 17 4 Washer AISI 304 503 RE0800304 VTE066504 VTE066504 VTE066504 VTE066504 VTE066504 VTE066504 VTE066004 RE0803304 RE0803304 RE08 RE0803304 RE08 RE08 RE0803304 RE08 RE080304 RE08 RE08 RE0803304 RE08 RE0330GA RE08 RE08 RE0330GA RE08 RE08 RE08 RE08 RE08 RE08 RE08 <td>14</td> <td>1</td> <td>Shaft stop nut</td> <td>AISI 316</td> <td>734</td> <td></td> <td></td> <td>PDED91416</td> <td></td> <td></td>	14	1	Shaft stop nut	AISI 316	734			PDED91416			
16 1 Sensor defection washer Fe 360 773 REDB091417 17 4 Washer AISI 304 503 REDB09304 VTE06 18 4 Screw AISI 304 503 REDB091417 VTE0 19 2 Screw AISI 304 500 VTE0605514 VTE066004 VTE066504 VTE0 20 2 Washer AISI 304 503 RE0600304 RE05 23 1 Drive shaft AISI 304 503 RED091417 RE551420 24 1 Self-braking nut Fe 360 576 D06AUTOFE D06AUTOFE 25 1 Support for TDUOP ASTM-A105 545 AFD092610 ASTM-A105 26 1 Nigasket GACO 548 OR03143GA D08AUTOFE 27 1 O-Ring gasket GACO 548 OR0300GA D191428 29 1 Piston skint RULON 732 PDE052803 D31 <td>15</td> <td>1</td> <td>Connection block</td> <td>AISI 304</td> <td>777</td> <td></td> <td></td> <td>RB2591415</td> <td></td> <td></td>	15	1	Connection block	AISI 304	777			RB2591415			
10 10	16	1	Sensor detection washer	Fe 360	703			RDD091417			
11 1 1003001 100304 503 1003004 VTP0 18 4 Screw AISI 304 551 TCCE08254 VTP0 19 2 Screw AISI 304 503 RE060034 VTE066504 VTE0 20 2 Washer AISI 304 503 RE060034 RE08 23 1 Drive shaft AISI 304 576 D08AUTOFE RE2591420 24 1 Self-braking nut Fe 360 576 D08AUTOFE Constantion RE2691420 26 1 NI gasket GACO 545 AFD092610 Stress St	10	1	Washer		503		RE08	00304		_	
10 4 Outsw Alsi 304 501 TOEL0024 VTE0 19 2 Screw Alsi 304 500 VTE0660514 VTE066004 VTE06604 RE08 20 2 Washer Alsi 304 500 VTE0605514 VTE066004 VTE066004 RE08 23 1 Drive shaft Alsi 304 787 RB2591420 RE08 24 1 Self-braking nut Fe 360 576 D08AUTOFE D08AUTOFE 25 1 Support for TDUOP ASTM-A105 545 AFD092610 Self-braking nut Fe 360 576 26 1 NI gasket GACO 548 OR03300GA Self-braking nut Fe 360 Self-braking nut Self-braking	17	4	Screw	AISI 304	551			00304			
19 2 Othew Alsi 304 500 V1L000304 V1L000304 V1L000304 V1L000304 20 2 Washer Alsi 304 787 RE6603034 RE06 23 1 Drive shaft Alsi 304 787 RE6603034 RE06 24 1 Self-braking nut Fe 360 576 D08AUTOFE 25 1 Support for TDUOP ASTM-A105 545 AFD092610 26 1 Ni gasket GACO 548 OR03143GA 27 1 O-Ring gasket GACO 548 OR03300GA 29 1 Piston gasket GACO 548 OR03300GA 29 1 Distance ring AISI 304 777 RB2591419 31 2 Distance ring AISI 304 775 RB2591429 33 1 Hanger AISI 304 503 VTE101604 35 2 Screw AISI 304 500 VTE101604 <	10	-+	Screw	AISI 304	500		V/TEO	66004		VTE088004	
20 2 Washer Alsi 304 303 RED000304 RED0 23 1 Drive shaft Alsi 304 787 RB2591420 24 1 Self-braking nut Fe 360 576 D08AUTOFE 25 1 Support for TDUOP ASTM-A105 545 AFD092610 26 1 NI gasket GACO 511 GD00N1184 27 1 O-Ring gasket GACO 548 OR03300GA 28 1 O-Ring gasket GACO 548 OR03300GA 29 1 Piston skirt RULON 732 PDED92803 30 1 Connection block AISI 304 777 RB2591429 31 2 Distance ring AISI 304 775 RB2591429 33 1 Hanger AISI 304 603 RE1000304 35 2 Screw AISI 304 500 VTE101604 36 1 Spring STEEL FOR SPRINGS	19	2	Weeher	AISI 304	500	VIE0003314		00004	V1E000304	VIE000004	
23 1 Diffe Shall AlsTode 767 RE2591420 24 1 Self-braking nut Fe 360 576 D08AUTOFE 25 1 Support for TDUOP ASTM-A105 545 AFD092610 26 1 NI gasket GACO 511 GD00N1184 27 1 O-Ring gasket GACO 548 OR03143GA 28 1 O-Ring gasket GACO 548 OR0300GA 29 1 Piston skirt RULON 732 PDED92803 30 1 Connection block AISI 304 777 RB2591429 31 2 Distance ring AISI 304 623 RB2591424 RB4391427 RB5091432 RB62 34 2 Washer AISI 304 603 VTE101604 552 35 2 Screw AISI 304 503 VTE101604 545 36 1 Spring STEL FOR SPRINGS 552 MTD088167 <	20	- 2	Drive shoft	AISI 304	203		KE00	DD2504420		RE0000304	
24 1 Self-ortaking full Fe 360 576 D0A010FE 25 1 Support for TDUOP ASTM-A105 545 AFD092010 26 1 NI gasket GACO 511 GD00NI184 27 1 O-Ring gasket GACO 548 OR03143GA 28 1 O-Ring gasket GACO 548 OR0300GA 29 1 Piston skirt RULON 732 PDED92803 30 1 Connection block AISI 304 777 RB2591419 31 2 Distance ring AISI 304 775 RB2591424 RB4391427 RB5091432 RB62 34 2 Washer AISI 304 503 VTE101604 35 2 Screw AISI 304 500 VTE101604 36 1 Spring STELFOR SPRINGS 552 MTD088167 37 1 Piston lock support	23	1	Drive shall	AISI 304	101	RB2591420					
25 1 Support on TDDOP ASTMANDS S43 APD92610 26 1 NI gasket GACO 511 GD00N1184 27 1 O-Ring gasket GACO 548 OR03143GA 28 1 O-Ring gasket GACO 548 OR03300GA 29 1 Piston skit RULON 732 PDED92803 30 1 Connection block AlSI 304 777 R82591419 31 2 Distance ring AlSI 304 522 NDI091428 32 1 Sensor hanger AlSI 304 623 RB2591424 RB4391427 RB5091432 RB62 34 2 Washer AlSI 304 500 VTE101604 VE100304 35 2 Screw AlSI 304 500 VTE101604 VE101064 36 1 Spring SPELFOR Screw Sto0003806 S00003806 S00005806 S000 38 2 Check valve head	24	1	Sell-blaking hut		576						
26 1 Ni gasket GACO 511 GBUONTI64 27 1 O-Ring gasket GACO 548 OR03143GA 28 1 O-Ring gasket GACO 548 OR03143GA 28 1 O-Ring gasket GACO 548 OR03300GA 29 1 Piston skirt RULON 732 PDED92803 30 1 Connection block AISI 304 777 RB2591419 31 2 Distance ring AISI 304 775 RB2591429 33 1 Hanger AISI 304 503 RE1000304 35 2 Screw AISI 304 500 VTE101604 36 1 Spring STELF PR 552 MTD088167 37 1 Piston lock support Fe 360 545 AFD087240 38 2 Check valve head AISI 316 740 VRCD91387 VRCD91392 VRCD 38 2 Globe	25	1	Support for TDOOP	ASTM-A105	545			AFD092610			
27 1 O-Ring gasket GACO 548 OR031436A 28 1 O-Ring gasket GACO 548 OR03300GA 29 1 Piston skirt RULON 732 PDED92803 30 1 Connection block AISI 304 777 RB2591419 31 2 Distance ring AISI 304 775 RB2591429 33 1 Hanger AISI 304 623 RB2591424 RB4391427 RB5091432 RB62 34 2 Washer AISI 304 500 VTE101604 VTE101604 35 2 Screw AISI 304 500 VTE101604 VRCD91392 VRCD 36 1 Spring STEEL FOR SPRINGS 552 MTD088167 VRCD91392 VRCD 39 2 Globe AISI 316 740 VRTD91387 VRCD91392 VRCD 39 2 Globe AISI 316 552 MTD08485 M316960363 M316 <td>20</td> <td>1</td> <td></td> <td>GACO</td> <td>511</td> <td></td> <td></td> <td>GD00N1184</td> <td></td> <td></td>	20	1		GACO	511			GD00N1184			
28 1 O-Ring gasket GACO 548 OR0300GA 29 1 Piston skirt RULON 732 PDED92803 30 1 Connection block AISI 304 777 RB2591419 31 2 Distance ring AISI 304 775 RB2591429 32 1 Sensor hanger AISI 304 623 RB2591424 RB391427 RB5091432 RB62 34 2 Washer AISI 304 503 RE1000304 35 2 Screw AISI 304 500 VTE101604 36 1 Spring STEEL FOR SPRINGS 552 MTD088167 37 1 Piston lock support Fe 360 545 AFD087240 38 2 Check valve head AISI 316 588 S00003806 S0005806 S000 40 2 Check valve spring holder AISI 316 552 MTD091410 MTD091396 MTD0	27	1	O-Ring gasket	GACO	548			OR03143GA			
29 1 Piston skirt RULON 732 PDED92803 30 1 Connection block AISI 304 777 RB2591419 31 2 Distance ring AISI 316 522 NDID91428 32 1 Sensor hanger AISI 304 775 RB2591424 RB4391427 RB5091432 RB62 34 2 Washer AISI 304 503 RE1000304 RE1000304 35 2 Screw AISI 304 500 VTE101604 VTE101604 36 1 Spring STEEL FOR SPRINGS 552 MTD088167 VRCD91392 VRCD 38 2 Check valve head AISI 316 740 VRTD91387 VRCD91392 VRCD 39 2 Globe AISI 316 588 S00003806 S0000860 S0000806 41 1 Spring AISI 316 552 MTD091410 MTD91396 MTD0 42 0 Check valve spring holder AISI 316<	28	1	O-Ring gasket	GACO	548			OR03300GA			
30 1 Connection block AISI 304 777 RB2591419 31 2 Distance ring AISI 316 522 NDID91428 32 1 Sensor hanger AISI 304 775 RB2591429 33 1 Hanger AISI 304 623 RB2591424 RB4391427 RB5091432 RB62 34 2 Washer AISI 304 503 RE1000304 RE1000304 35 2 Screw AISI 304 500 VTE101604 VTE101604 36 1 Spring STEEL FOR SPRINGS 552 MTD088167 VRCD91392 VRCD 37 1 Piston lock support Fe 360 545 AFD087240 So0005806 S000 38 2 Check valve head AISI 316 740 VRCD91392 VRCD 39 2 Globe AISI 316 552 MTD091387 VRCD91396 M316960363 41 1 Spring AISI 316 552	29	1	Piston skirt	RULON	732			PDED92803			
31 2 Distance ring AlSI 316 522 NDID91428 32 1 Sensor hanger AlSI 304 775 RB2591429 33 1 Hanger AlSI 304 623 RB2591424 RB4391427 RB5091432 RB62 34 2 Washer AlSI 304 503 RE1000304 35 2 Screw AlSI 304 500 VTE101604 36 1 Spring STEEL FOR SPRINGS 552 MTD088167 37 1 Piston lock support Fe 360 545 AFD087240 38 2 Check valve head AlSI 316 740 VRTD91387 VRCD91392 VRCD 39 2 Globe AlSI 316 588 S00003806 S00005806 S000 41 1 Spring AlSI 316 552 MTD091410 MTD091396 MTD0 42 2 O-Ring VITON 548 OR02081VI	30	1	Connection block	AISI 304	777			RB2591419			
32 1 Sensor hanger AISI 304 775 RB2591429 33 1 Hanger AISI 304 623 RB2591424 RB4391427 RB5091432 RB62 34 2 Washer AISI 304 503 RE1000304 RE1000304 35 2 Screw AISI 304 500 VTE101604 VTE101604 36 1 Spring STEEL FOR SPRINGS 552 MTD088167 VRCD91392 VRCD 38 2 Check valve head AISI 316 740 VRTD91387 VRCD91392 VRCD 39 2 Globe AISI 316 588 S00003806 S00005806 S000 40 2 Check valve spring holder AISI 316 819 M316092485 M316960363 M3169 41 1 Spring AISI 316 552 MTD091410 MTD091396 MTD0 42 2 O-Ring VITON 548 OR02081VI OR03112VI OR03	31	2	Distance ring	AISI 316	522			NDID91428			
33 1 Hanger AISI 304 623 RB2591424 RB4391427 RB5091432 RB62 34 2 Washer AISI 304 503 RE1000304 RE1000304 35 2 Screw AISI 304 500 VTE101604 VTE101604 36 1 Spring STEEL FOR SPRINGS 552 MTD088167 VCD91392 VRCD 38 2 Check valve head AISI 316 740 VRTD91387 VRCD91392 VRCD 39 2 Globe AISI 316 552 MTD08167 MTD091392 VRCD 40 2 Check valve head AISI 316 588 S00003806 S00005806 S000 41 1 Spring AISI 316 552 MTD091410 MTD091396 MTD0 42 0-Ring VITON 548 OR02081VI OR03112VI OR03 43 1 Stuffing box TEF/GRAF 587 2731 2732 2733 2734	32	1	Sensor hanger	AISI 304	775			RB2591429			
34 2 Washer AISI 304 503 RE1000304 35 2 Screw AISI 304 500 VTE101604 36 1 Spring STEEL FOR SPRINGS 552 MTD088167 37 1 Piston lock support Fe 360 545 AFD087240 38 2 Check valve head AISI 316 740 VRTD91387 VRCD91392 VRCD 39 2 Globe AISI 316 588 S00003806 S00005806 S000 40 2 Check valve spring holder AISI 316 552 MTD091410 MTD091396 MTD0 41 1 Spring AISI 316 552 MTD091410 MTD091396 MTD0 42 2 O-Ring VITON 548 OR02081VI OR03112VI OR03 43 1 Stuffing box TEF/GRAF 587 2731 2732 2733 2734 27 44 1 Pump head AISI 316	33	1	Hanger	AISI 304	623	RB25	91424	RB4391427	RB5091432	RB6291435	
35 2 Screw AISI 304 500 VTE101604 36 1 Spring STEEL FOR SPRINGS 552 MTD088167 37 1 Piston lock support Fe 360 545 AFD087240 38 2 Check valve head AISI 316 740 VRTD91387 VRCD91392 VRCD 39 2 Globe AISI 316 552 MTD091485 M316960363 M3169 40 2 Check valve spring holder AISI 316 552 MTD091410 MTD091396 MTD0 41 1 Spring AISI 316 552 MTD091410 MTD091396 MTD0 42 2 O-Ring VITON 548 OR02081VI OR03112VI OR03112VI OR03112VI OR0312VI OR03112VI OR03112VI <td>34</td> <td>2</td> <td>Washer</td> <td>AISI 304</td> <td>503</td> <td></td> <td></td> <td>RE1000304</td> <td></td> <td></td>	34	2	Washer	AISI 304	503			RE1000304			
36 1 Spring STEEL FOR SPRINGS 552 MTD088167 37 1 Piston lock support Fe 360 545 AFD087240 38 2 Check valve head AISI 316 740 VRTD91387 VRCD91392 VRCD 39 2 Globe AISI 316 588 S00003806 S00005806 S000 40 2 Check valve spring holder AISI 316 552 MTD091410 MTD091396 MTD0 41 1 Spring AISI 316 552 MTD091410 MTD091396 MTD0 42 2 O-Ring VITON 548 OR02081VI OR03112VI OR03 43 1 Stuffing box TEF/GRAF 587 2731 2732 2733 2734 27 44 1 Pump piston AISI 316 731 PDED931056 PDED931062 PDED931065 PDED931064 RB50931067 RB625 45 1 Pump head AISI 316 785	35	2	Screw	AISI 304	500			VTE101604			
37 1 Piston lock support Fe 360 545 AFD087240 38 2 Check valve head AISI 316 740 VRTD91387 VRCD91392 VRCD 39 2 Globe AISI 316 588 S00003806 S00005806 S0000 40 2 Check valve spring holder AISI 316 819 M316092485 M316960363 M3169 41 1 Spring AISI 316 552 MTD091410 MTD091396 MTD0 42 2 O-Ring VITON 548 OR02081VI OR03112VI OR03 43 1 Stuffing box TEF/GRAF 587 2731 2732 2733 2734 27 44 1 Pump piston AISI 316 785 RB25931058 RB30931061 RB43931064 RB50931067 RB259 46 2 O-Ring VITON 548 OR02056VI OR02087VI OR031247 48 1 O-Ring VITON <t< td=""><td>36</td><td>1</td><td>Spring</td><td>STEEL FOR SPRINGS</td><td>552</td><td></td><td></td><td>MTD088167</td><td></td><td></td></t<>	36	1	Spring	STEEL FOR SPRINGS	552			MTD088167			
38 2 Check valve head AISI 316 740 VRTD91387 VRCD91392 VRCD 39 2 Globe AISI 316 588 S00003806 S00005806 S0000 40 2 Check valve spring holder AISI 316 819 M316092485 M316960363 M3169 41 1 Spring AISI 316 552 MTD091410 MTD091396 MTD0 42 2 O-Ring VITON 548 OR02081VI OR03112VI OR03112VI OR03 43 1 Stuffing box TEF/GRAF 587 2731 2732 2733 2734 27 44 1 Pump piston AISI 316 731 PDED931056 PDED931062 PDED931065 PDED93 45 1 Pump head AISI 316 785 RB25931058 RB30931061 RB43931064 RB50931067 RB629 46 2 O-Ring VITON 548 OR0400VI OR04118VI OR00147VI OR0	37	1	Piston lock support	Fe 360	545			AFD087240			
39 2 Globe AISI 316 588 S00003806 S00005806 S000 40 2 Check valve spring holder AISI 316 819 M316092485 M316960363 M3169 41 1 Spring AISI 316 552 MTD091410 MTD091396 MTD0 42 2 O-Ring VITON 548 OR02081VI OR03112VI OR03 43 1 Stuffing box TEF/GRAF 587 2731 2732 2733 2734 27 44 1 Pump piston AISI 316 731 PDED931056 PDED931062 PDED931065 PDED93 45 1 Pump head AISI 316 785 RB25931058 RB30931061 RB43931064 RB50931067 RB6293 46 2 O-Ring VITON 548 OR02056VI OR02087VI OR03 47 2 Check valve housing AISI 316 720 VRSD91388 VRSD91394 VRSD 48	38	2	Check valve head	AISI 316	740		VRTD91387		VRCD91392	VRCD91398	
40 2 Check valve spring holder AISI 316 819 M316092485 M316960363 M3169 41 1 Spring AISI 316 552 MTD091410 MTD091396 MTD0 42 2 O-Ring VITON 548 OR02081VI OR03112VI OR03 43 1 Stuffing box TEF/GRAF 587 2731 2732 2733 2734 27 44 1 Pump piston AISI 316 731 PDED931056 PDED931062 PDED931065 PDED9 45 1 Pump head AISI 316 785 RB25931058 RB30931061 RB43931064 RB50931067 RB629 46 2 O-Ring VITON 548 OR02056VI OR02087VI OR03 47 2 Check valve housing AISI 316 720 VRSD91388 VRSD91394 VRSD 48 1 O-Ring VITON 548 OR04100VI OR04118VI OR00147VI OR00153VI OR0	39	2	Globe	AISI 316	588		S00003806		S00005806	S00003406	
41 1 Spring AISI 316 552 MTD091410 MTD091396 MTD0 42 2 O-Ring VITON 548 OR02081VI OR03112VI OR03 43 1 Stuffing box TEF/GRAF 587 2731 2732 2733 2734 27 44 1 Pump piston AISI 316 731 PDED931056 PDED931062 PDED931065 PDED9 45 1 Pump head AISI 316 785 RB25931058 RB30931061 RB43931064 RB50931067 RB629 46 2 O-Ring VITON 548 OR02056VI OR02087VI OR03 47 2 Check valve housing AISI 316 720 VRSD91388 VRSD91394 VRSD 48 1 O-Ring VITON 548 OR04100VI OR04118VI OR00147VI OR00153VI OR00 49 1 Stuffing box screw AISI 316 559 VVD0931057 VVD0931060 VVD0931066<	40	2	Check valve spring holder	AISI 316	819	M316092485 M316960363 M31696036					
42 2 O-Ring VITON 548 OR02081VI OR03112VI OR03 43 1 Stuffing box TEF/GRAF 587 2731 2732 2733 2734 27 44 1 Pump piston AISI 316 731 PDED931056 PDED931059 PDED931062 PDED931065 PDED9 45 1 Pump head AISI 316 785 RB25931058 RB30931061 RB43931064 RB50931067 RB629 46 2 O-Ring VITON 548 OR02056VI OR02087VI OR03 47 2 Check valve housing AISI 316 720 VRSD91388 VRSD91394 VRSD 48 1 O-Ring VITON 548 OR04100VI OR04118VI OR00147VI OR00153VI OR00 49 1 Stuffing box screw AISI 316 559 VVD0931057 VVD0931060 VVD0931066 VVD0931066	41	1	Spring	AISI 316	552		MTD091410		MTD091396	MTD091402	
43 1 Stuffing box TEF/GRAF 587 2731 2732 2733 2734	42	2	O-Ring	VITON	548		OR02081VI		OR03112VI	OR03131VI	
44 1 Pump piston AISI 316 731 PDED931056 PDED931052 PDED931062 PDED931065 PDED9 45 1 Pump head AISI 316 785 RB25931058 RB30931061 RB43931064 RB50931067 RB629 46 2 O-Ring VITON 548 OR02056VI OR02087VI OR03 47 2 Check valve housing AISI 316 720 VRSD91388 VRSD91394 VRSD 48 1 O-Ring VITON 548 OR04100VI OR0147VI OR00153VI OR00 49 1 Stuffing box screw AISI 316 559 VVD0931057 VVD0931060 VVD0931063 VVD0931066 VVD0931066	43	1	Stuffing box	TEF/GRAF	587	2731	2732	2733	2734	2735	
45 1 Pump head AISI 316 785 RB25931058 RB30931061 RB43931064 RB50931067 RB628 46 2 O-Ring VITON 548 OR02056VI OR02087VI OR03 47 2 Check valve housing AISI 316 720 VRSD91388 VRSD91394 VRSD 48 1 O-Ring VITON 548 OR04100VI OR04118VI OR00147VI OR00153VI OR00 49 1 Stuffing box screw AISI 316 559 VVD0931057 VVD0931060 VVD0931063 VVD0931066 VVD09	44	1	Pump piston	AISI 316	731	PDED931056	PDED931059	PDED931062	PDED931065	PDED931068	
46 2 O-Ring VITON 548 OR02056VI OR02087VI OR03 47 2 Check valve housing AISI 316 720 VRSD91388 VRSD91394 VRSD 48 1 O-Ring VITON 548 OR04100VI OR04118VI OR00147VI OR00153VI OR00 49 1 Stuffing box screw AISI 316 559 VVD0931057 VVD0931060 VVD0931066 VVD09	45	1	Pump head	AISI 316	785	RB25931058	RB30931061	RB43931064	RB50931067	RB62931070	
47 2 Check valve housing AISI 316 720 VRSD91388 VRSD91394 VRSD 48 1 O-Ring VITON 548 OR04100VI OR04118VI OR00147VI OR00153VI OR00 49 1 Stuffing box screw AISI 316 559 VVD0931057 VVD0931060 VVD0931066 VVD0931066	46	2	O-Ring	VITON	548		OR02056VI		OR02087VI	OR03093VI	
48 1 O-Ring VITON 548 OR04100VI OR04118VI OR00147VI OR00153VI OR00 49 1 Stuffing box screw AISI 316 559 VVD0931057 VVD0931060 VVD0931063 VVD0931066 VVD0931066	47	2	Check valve housing	AISI 316	720	VRSD91388 VRSD91394 VRSD9				VRSD91400	
49 1 Stuffing box screw AISI 316 559 VVD0931057 VVD0931060 VVD0931063 VVD0931066 VVD0931066	48	1	O-Ring	VITON	548	OR04100VI OR04118VI OR00147VI OR00153VI OR0016				OR00165VI	
	49	1	Stuffing box screw	AISI 316	559	VVD0931057 VVD0931060 VVD0931063 VVD0931066 VVD09310					
50 1 Stroke indicator RED PVC 840 ICD091256	50	1	Stroke indicator	RED PVC	840	ICD091256					
51 1 Transparent cap PLASTIC 840 ICD091467	51	1	Transparent cap	PLASTIC	840			ICD091467			
52 1 Hanger AISI 304 623 RB2592363	52	1	Hanger	AISI 304	623			RB2592363			
55 2 Pipe outside protection POLYETH, 505 T013PT0012 T01ST00190 T01ST	55	2	Pipe outside protection	POLYETH	505		T013PT0012		T01ST00190	T01ST00250	

COMPONENTS AND SPARE PARTS FOR S.A. RB PUMPS

S.A. RB Group 64

GROUP 106

SPARE PARTS COMPLETE SET FOR S.A. RB PUMPS MANUFACTURED SINCE 1991 **POSITION 2-3**

SPARE PARTS COMPLETE SET – AIR SIDE

SPARE F	PARTS DE	4002			4831		
COMP.	Q.TY	RB 25	RB 30	RB 43	RB 50	RB 62	RB 80
4	1			TDUOP8073			TDUOP1254
10	1		GDAS00124			GDASOB164	
26	1			GD00NI184			BA0V16305
27	1		OR03143GA				OR02056VI
28	1	OR03300GA				OR03475GA	
29	1	PDED92803			-		

SPARE PARTS COMPLETE SET – LIQUID SIDE

SPARE I COL	PARTS DE	2739	2740	2741	2742	2743	4830
COMP.	Q.TY	RB 25	RB 30	RB 43	RB 50	RB 62	RB 80
41	1		MTD091410			MTD091402	MTD087148
42	*		OR02081VI		OR03112VI	OR03131VI	OR03156VI
43	1	2731	2732	2733	2734	2735	PPST950218
46	21		OR02056VI		OR02087VI	OR03093VI	OR02137VI
48	1	OR04100VI	OR04118VI	OR00147VI	OR00153VI	OR00165VI	-

* N° 2 PER LE POMPE RB DA 25 A 62 – N° 4 PER LA POMPA RB 80



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THE COMPONENTS THAT ARE LISTED IN THIS PAGE REFER TO DWG. nr. 940984 OF PAGE 14

Approved by : LR	Date: Jan 25 th , 2013
11 5	



DETAIL Nr.	Q.ty	DESCRIPTION	MATERIAL	GROUP	RB 25	RB 30	RB 43	RB 50	RB 62
1	1	Economizer fastening screw	AISI 420	779			RB2592606		
2	1	Piston washer	Fe 360	671	RAD087234				
3	1	Spring piston	AISI 304	651		NPMD88035			
4	1	Piston with TDUOP gasket	STEEL NBR	566			TDUOP8073		
5	4	Nut	AISI 304	501			D12055884		
6	4	Washer	AISI 304	503			RE1200304		
7	1	Pump intermediate body	AISI 304	797			PSED931089		
8	1	Pump bush	ASTM-A105	784			RB2591418		
9	1	RULON washer lock	BRASS	703			RDD092802		
10	1	AS gasket	GACO	511			GDAS00124		
11	2	Distance ring	AISI 316	522			NDID91421		
12	2	Screw	AISI 304	500			VTE062004		
13	2	Washer	AISI 304	503			RE0600304		
14	1	Shaft stop nut	AISI 316	734			PDED91416		
15	1	Connection block	AISI 304	777			RB2591415		
16	1	Sensor detection washer	Fe 360	703			RDD091417		
17	4	Washer	AISI 304	503		RE08	00304		-
18	4	Screw	AISI 304	551		TCCE	08254		VTP080204
19	2	Screw	AISI 304	500	VTE06055I4	VTE0	66004	VTE066504	VTE088004
20	2	Washer	AISI 304	503		RE06	00304		RE0800304
21	1	O-Ring	GACO	548		11200	533		1120000001
22	1	Stroke limiting device	PVC	781			RB2592608		
23	1	Drive shaft	AISI 304	787			RB2591420		
24	1	Self-braking nut	Fe 360	576					
25	1	Support for TDLIOP	ASTM-A105	545			AFD092610		
26	1	NI asket	GACO	511			GD00NI184		
20	1	O-Ring dasket	GACO	548			OR03143GA		
28	1	O-Ring gasket	GACO	548			OR03300GA		
20	1	Piston skirt	RULON	732			PDED02803		
30	1	Connection block		777			RB2591419		
31	2	Distance ring		522			NDID91428		
32	1	Sensor hanger	AISI 304	775			RB2591429		
33	1	Hanger		623	RB25	91/12/	RB/301/27	RB5001/32	RB6201/35
34	2	Washer	AISI 304	503	T(D20	51727	RE1000304	1100001402	1100201400
25	2	Screw		500			VTE101604		
38	2	Check valve head	AISI 316	740		VRTD91387		VRCD91392	VRCD91398
30	2	Globe	AISI 316	588		S00003806		S00005806	S00003406
40	2	Check valve spring holder	AISI 316	819		M316092485		M316960363	M316960364
<u>40</u>	1	Spring	AISI 316	552		MTD091410		MTD091396	MTD091402
42	2	O-Ring	VITON	548		OR02081\/I		OR03112\//	OR03131VI
43	1	Stuffing box	TEE/GRAE	587	2731	2732	2733	2734	2735
40	1	Pump piston	AISI 316	731	2/31 2/32 2/33 2/34 273 PDED031056 PDED031050 PDED031065 PDED03		PDFD931068		
45	1	Pump head	AISI 316	785	RB25031058	RB30931061	RB43031064	RB50931067	RB62031070
46	2	O-Ring		5/18	RB25931058 RB30931061 RB43931064 RB50931067 RB62931070 OR02056VI OR02087VI OR02087VI OR02093VI				
47	2	Check valve housing		720	VRSD91388 V/RSD91304 V/RSD91400				
<u> </u>	1	O-Ring	VITON	548	OR04100VI OR04118VI OR00147VI OR00153VI OR00165VI				
له 1 0	1	Stuffing box screw		550	UV/D0931057 VV/D0931060 V//D0931063 V//D0931066 V//D0931060				
+9 50	1	Hanger		623					
52	1	Self-braking put	Eo 260	576	RB2592363				
55	1	Washer		570	D12AUTOFE				
04 FF	1	Pipe outside protection		502		T012DT0012	KF1200304	T010T00100	T010T00050
55	2	ripe outside protection	PULTEIH.	505		1013P10012		1012100190	1013100250

COMPONENTS AND SPARE PARTS FOR D.A. RB PUMPS

D.A. RB Group 64

GROUP 106

SPARE PARTS COMPLETE SET FOR S.A. RB PUMPS MANUFACTURED SINCE 1991 **POSITION 2-3**

SPARE PARTS COMPLETE SET – AIR SIDE

SPARE F	ARE PARTS CODE			4003			4832
COMP.	Q.ty	RB 25	RB 30	RB 43	RB 50	RB 62	RB 80
4	1			TDUOP8073			TDUOP1254
10	1		GDAS00124			GDASOB164	
21	1		533			OR03112VI	
26	1			GD00NI184			BA0V16305
27	1		OR03143GA				OR02056VI
28	1		OR03300GA			OR03475GA	
29	1		PDED92803			-	

SPARE PARTS COMPLETE SET – LIQUID SIDE

SPARE F	PARTS DE	2739	2740	2741	2742	2743	4830
COMP.	Q.ty	RB 25	RB 30	RB 43	RB 50	RB 62	RB 80
41	1		MTD091410			MTD091402	MTD087148
42	*		OR02081VI		OR03112VI	OR03131VI	OR03156VI
43	1	2731	2732	2733	2734	2735	PPST950218
46	21		OR02056VI		OR02087VI	OR03093VI	OR02137VI
48	1	OR04100VI	OR04118VI	OR00147VI	OR00153VI	OR00165VI	-

^{*} Nr. 2 FOR 25 TO 62 RB PUMPS - Nr.° 4 FOR RB 80 PUMP



THE COMPONENTS THAT ARE LISTED IN THIS PAGE REFER TO DWG. nr. 940985 DI PAGE 17

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Date: Jan 25th, 2013

Issue: 03

Drawn up by : LF





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DETAILS OF RB PUMPS WHOLE HEADS

THE COMPONENTS LISTED IN THIS PAGE REFER TO DRAWING NR. 940986 OF PAGE 18

Group 106

RB 25 – 62 PUMP WHOLE HEADS

WHC HEA COD	DLE AD DES	5362	5363	6093	6094	6095
COMP	Q.ty	RB 25	RB 30	RB 43	RB 50	RB 62
38	2		VRTD91387		VRCD91392	VRCD91398
39	2		S00003806		S00005806	S00003406
40	2		M316092485		M316960363	M316960364
41	1		MTD091410		MTD091396	MTD091402
42	2		OR02081VI		OR03112VI	OR03131VI
43	1	2731	2732	2733	2734	2735
44	1	PDED931056	PDED931059	PDED931062	PDED931065	PDED931068
45	1	RB25931058	RB30931061	RB43931064	RB50931067	RB62931070
46	2		OR02056VI		OR02087VI	OR03093VI
47	2		VRSD91388	VRSD91394	VRSD91400	
48	1	OR04100VI	OR04100VI OR04118VI		OR00153VI	OR00165VI
49	1	VVD0931057 VVD0931060 VVD09		VVD0931063	VVD0931066	VVD0931069
55	2		T013PT0012	T01ST00190	T01ST00250	

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RB PUMPS MANUFACTURED FROM 1987 TO 1991 - SECTION PLANE







RB PUMPS MANUFACTURED FROM 1987 TO 1991- SPARE PARTS

THE COMPONENTS LISTED IN THIS PAGE REFER TO DWG. NR. 940972 OF PAGE 20

GROUP 106

SPARE PARTS COMPLETE SET FOR RB PUMPS MANUFACTURED FROM 1987 TO 1991 POSITION 1

SPARE PARTS COMPLETE SET – AIR SIDE

SPARE I COE	PARTS DE		6096			6097	
COMP.	Q.ty	RB 25	RB 30	RB 43	RB 50	RB 62	MATERIAL
56	1		1425			1426	NBR
57	1			RB2587002			RUBBER
58	2	BA0016244				GACO	
59	1		OR02137GA				GACO

SPARE PARTS COMPLETE SET – LIQUID SIDE

SPARE I COE	PARTS DE	2739	2740	2741	2742	2743	
COMP.	Q.ty	RB 25	RB 30	RB 43	RB 50	RB 62	MATERIAL
41	1		MTD091410			MTD091402	AISI 316
42	2		OR02081VI		OR03112VI	OR03131VI	VITON
43	1	2731	2732	2733	2734	2735	TEF/GRAF
46	2		OR02056VI		OR02087VI	OR03093VI	VITON
48	1	OR04100VI	OR04118VI	OR00147VI	OR00153VI	OR00165VI	VITON

SHOULD A SPARE PART OF THE AIR SIDE BE REQUIRED FOR A S.A. RB PUMP OF THE OLD TYPE WITH MECHANIC STOP, A GASKET **COD. OR04112GA** SHALL BE REQUIRED BESIDES THE COMPONENTS INCLUDED IN THE A.M. CODE

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NOTES:

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