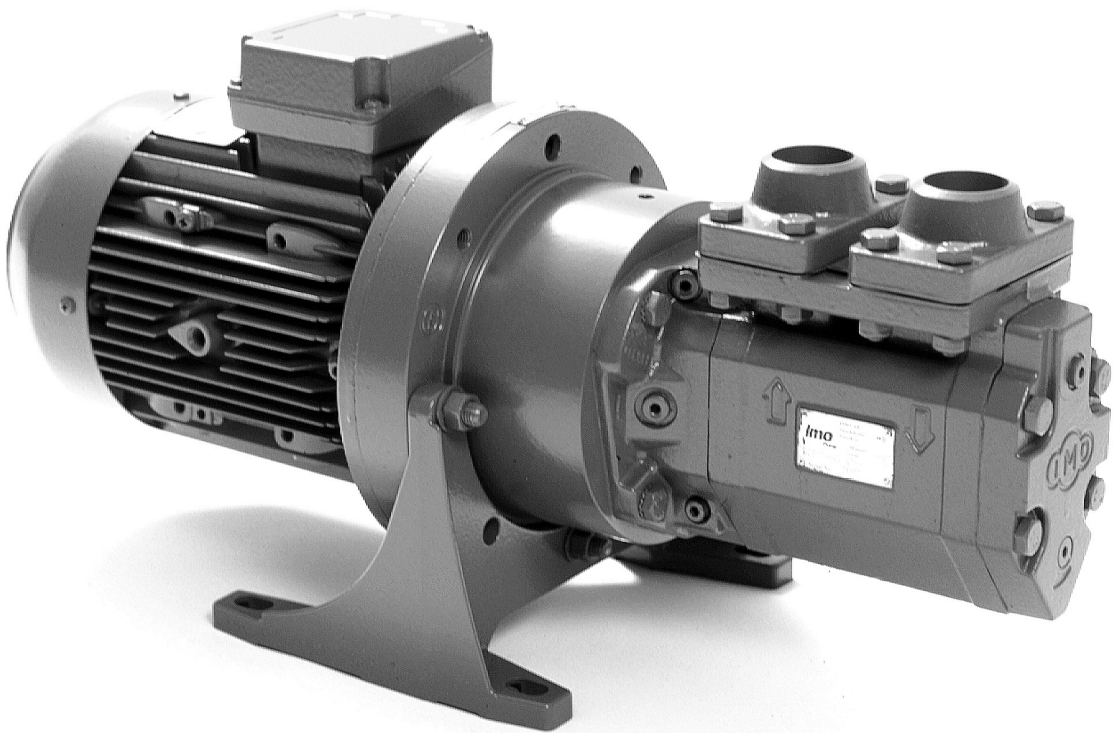


ACE3 Std Line



Product Description



Flow volume:	10 - 180 l/min
Max differential pressure:	16 bar
Applications:	Circulation, lubrication and transfer

1. Applications

1.1 Functionality

The Std Line (standard) ACE pump comes in two executions; Lube Line and Fuel Line. The main difference is the shaft seal design; (V-Seal) - optimized for light duty and (T-Seal) - heavy duty respectively.

The ACE pump is used for a number of different fluids:

Lubrication oil, fuel oil, vegetable oil, hydraulic oil and other hydraulic fluids, polymers, emulsions and any non-aggressive fluid with sufficient lubricating properties.

If requested, the ACE pump may be certified according to any of following classification societies: DNV, BV, LRS, ABS, RS, GL, RINA, KR, NK, RMR or CCS.

1.2 Applications

Typical applications are:

- Lubrication of diesel engines, gears, gas and steam turbines, hydro turbines and paper machines
- Circulation for cooling and filtration in large machineries, hydraulic systems and transformer oil for insulation in transformers
- As transfer pumps onboard vessels, in power plants, oil factories, refineries, tank farms etc
- Fuel supply duties for engines
- Supply and circulation of fuel oil

1.3 Installation

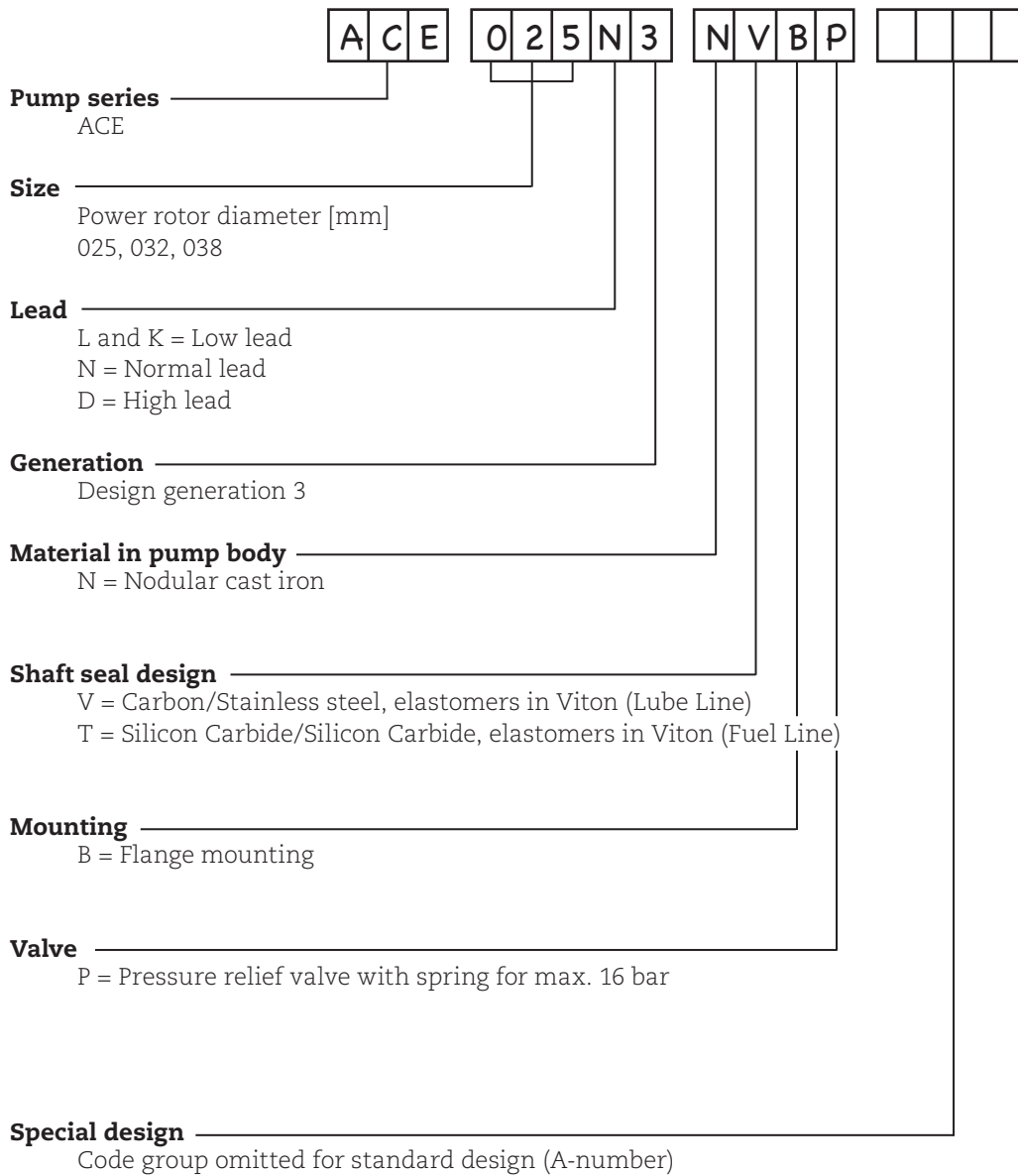
The pump is designed to be flange-mounted to its electric motor via a connecting frame and a flexible shaft coupling. By the angle bracket, the pump may be mounted horizontally or vertically.

The ACE pump can also be mounted on valve blocks called T4 or T5.

As standard, the pump is delivered including counter flanges (IMO AB design).

For more information about installation, see Installation and Start-up instruction for low pressure pumps.

2. Pump model code



3. Technical Data

3.1 Pressure Information

Pressure relief valve

The pump is equipped with an integral pressure relief valve with internal return, limiting the differential pressure across the pump and protecting the pump. Should the discharge line be blocked, the relief valve will open by the pressure.

The valve is adjustable for different opening pressures. The value of the pressure limit can be set at the factory and should be adjusted at installation (see Installation & Start-up instruction for low-pressure pumps).

The maximum pressure accumulation varies with pump size, speed and viscosity, but will normally not exceed 4 bar.

The valve has a maximum set pressure of 16 bar.

Inlet pressure

Minimum inlet pressure (suction capability) is dependent on fluid viscosity and rotation speed. It increases with decreasing viscosity and decreasing speed. Information about minimum inlet pressure for each individual duty case can be obtained from IMO AB or pump selection software WinPump.

Maximum inlet pressure is 7 bar.

Discharge pressure

Maximum discharge pressure is 16 bar.

Differential pressure

Maximum differential pressure is 16 bar but reduced at low viscosities according to table below

Viscosity [cSt]	1,4	2	6	10	>12
Max. diff. pressure [bar]	6,9	8	12,4	15	16

Refer to your IMO representative or use the pump selection software WinPump to determine the exact operating limits.

3.2 Driver information

Driver type

The pump is designed to be connected to an electrical motor via a flexible shaft coupling.

Speed

The maximum speed is 3600 rpm. For higher speeds, contact IMO AB.

Rotation

The pump is designed to operate in one rotational direction only, as standard clockwise when facing the shaft end. Pumps for CCW operation can be delivered on special request.

For shorter periods of time, a few minutes for emptying a discharge line, the pump may be operated in reverse direction, provided the back pressure is limited to 3 bar.

3. Technical Data

3.3 Sound level

Typical pump sound levels refer to free field conditions at a distance of 1 m from the pump. Noise of driver excluded in the quoted figures. The sound levels are measured at a discharge pressure of 5 bar, speed 2940 rpm and viscosity 40 cSt, according to ISO-3741.

Size	025	032	038
Sound level dB [A]	58	58	58

3.4 Moment of Inertia

Moment of inertia [10^{-6} kgm²]

Size	025	032	038
Value	49	72	194

3.5 Fluid viscosity

Lube Line seal (Seal version code V):
1,4 – 800 cSt for Lube and hydraulic oil

Fuel Line seal (Seal version code T):
1,4 – 3500 cSt for Fuel oil

For higher viscosity, contact IMO AB.

3.6 Fluid temperature

Lube Line (Seal version code V): -20 – +90 °C
Fuel Line (Seal version code T): -20 – +155 °C

4. Design

4.1 Ball bearing

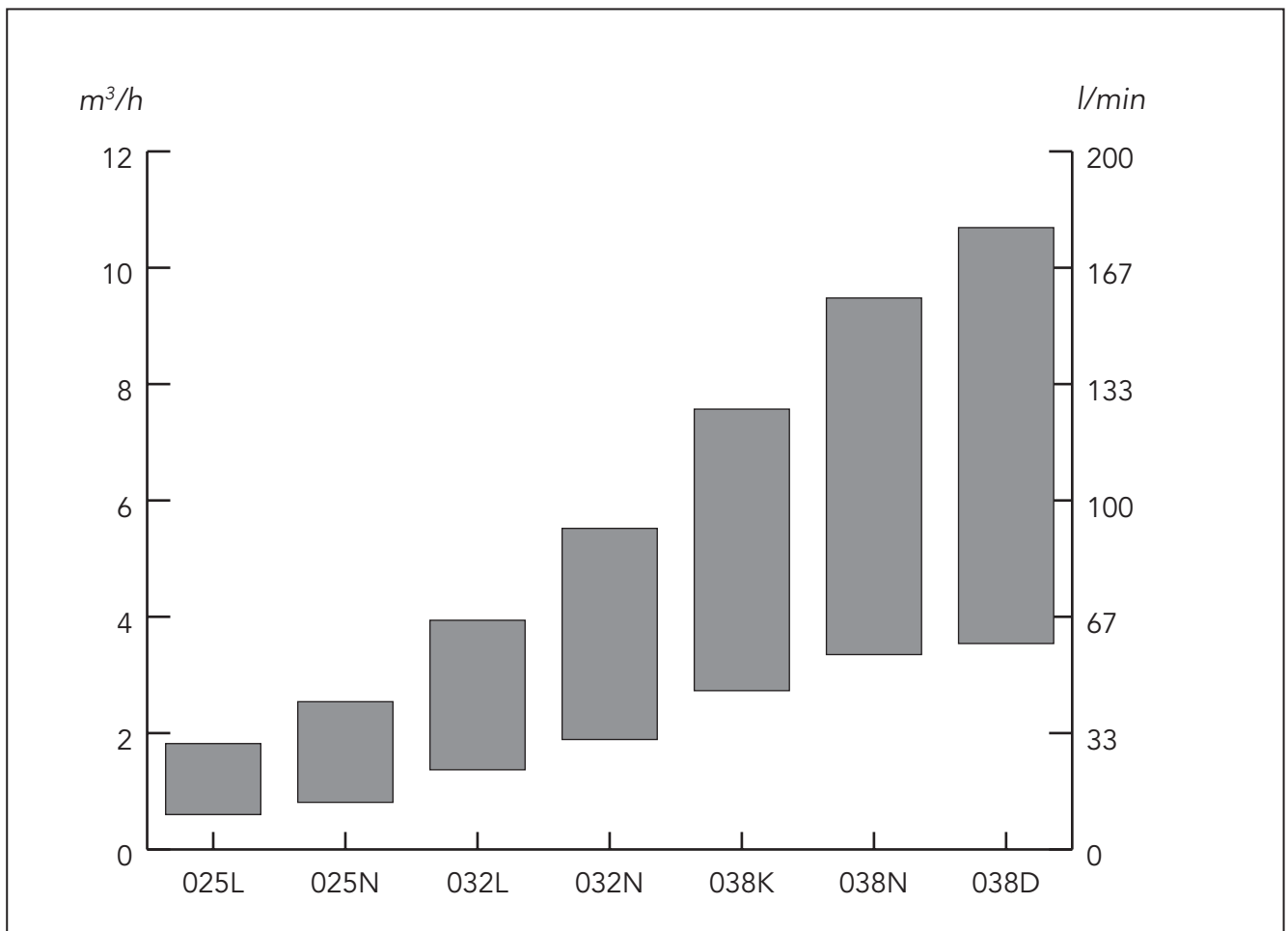
The pump is fitted with an internal ball bearing which continuously is being greased by the handling media.

4.2 Design material

Model	Material pump	Material rotor	Material idler	Material seal	Material Elastomers
ACE NV	Nodular cast iron	Steel, surface treated	Cast iron, surface treated	Carbon/Silicon carbide	Viton
ACE NT	Nodular cast iron	Steel, surface treated	Cast iron, surface treated	Silicon carbide / Silicon carbide	Viton

5. Performance

Typical performance values at 5 bar
Flow calculated at 26 cSt, power at 260 cSt.

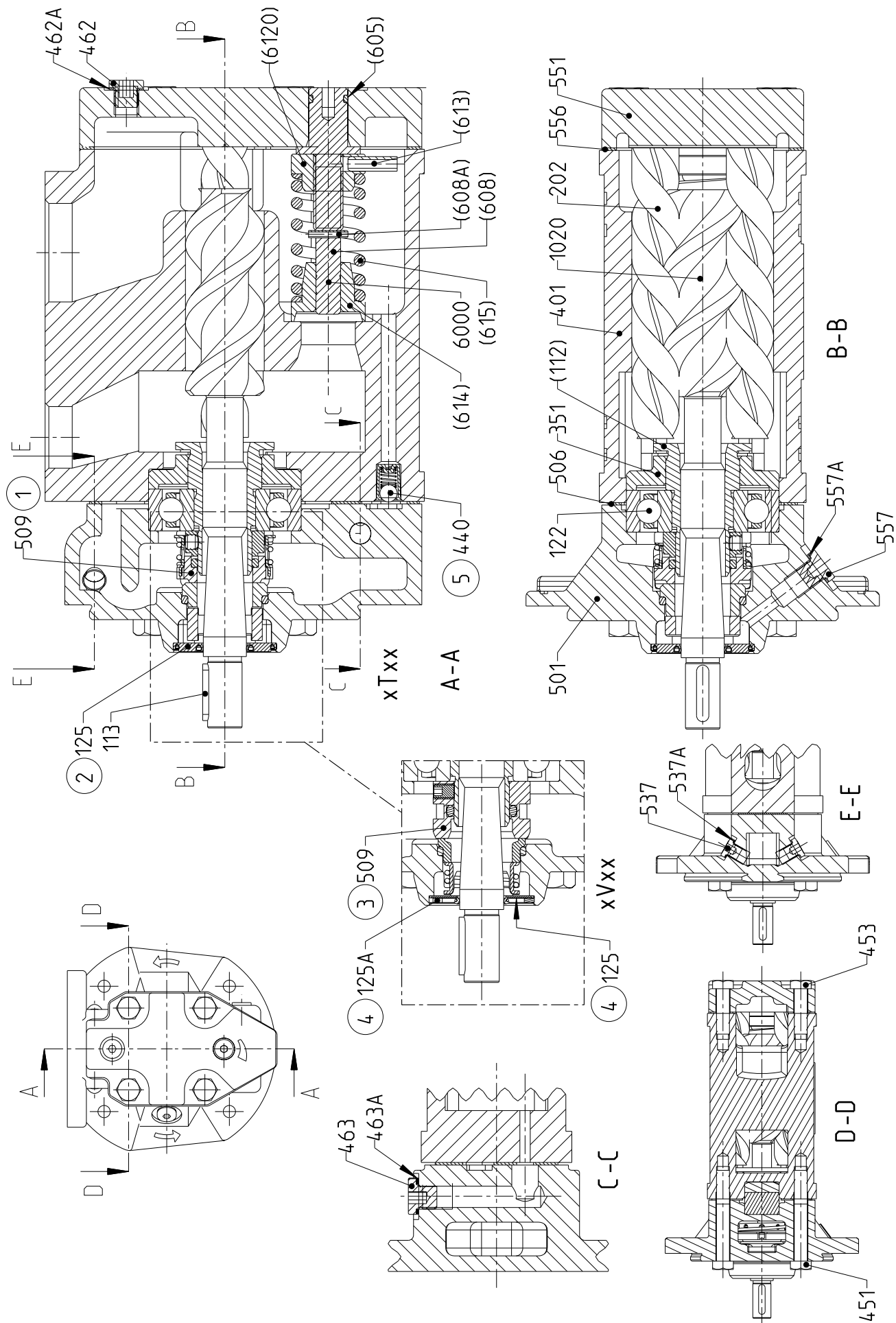


025L			025N		
rpm	l/min	kW	l/min	kW	
1470	10,0	0,3	13,5	0,4	
1770	12,9	0,4	17,7	0,5	
2950	24,5	0,9	34,1	1,0	
3550	30,4	1,1	42,5	1,3	

032L			032N		
rpm	l/min	kW	l/min	kW	
1470	22,8	0,5	35,9	0,8	
1770	29,0	0,7	44,6	1,0	
2950	53,3	1,3	79,0	1,9	
3550	65,6	1,7	96,4	2,4	

038K			038N			038D		
rpm	l/min	kW	l/min	kW	l/min	kW		
1470	45,5	1,0	55,8	1,3	59,1	1,2		
1770	57,1	1,3	70,5	1,7	76,2	1,5		
2950	102,9	2,5	128,4	3,2	143,9	2,9		
3550	126,2	3,2	157,9	4,1	178,2	3,6		

6. Sectional view



7. List of components

Pos No	Denomination	Pos No	Denomination	Pos No	Denomination
1020	Complete power rotor	453	Screw	556	Gasket
(112)	Balancing piston	462	Plug	557	Plug
113	Key	462A	Sealing washer	557A	Sealing washer
122	Ball bearing	463	Plug	6000	Complete valve element
125	Secondary seal	463A	Sealing washer	(605)	O-ring
125A	Retaining ring	501	Front cover	(608)	Valve spindle
202	Idler rotor	506	Gasket	(608A)	Tension pin
351	Balancing bush	509	Shaft seal	(6120)	Complete regulating nut
401	Pump body	537	Deaeration plug	(613)	Pin
440	Return valve	537A	Sealing washer	(614)	Valve piston
451	Screw	551	Rear cover	(615)	Valve spring

Drawing remarks:

- (1) Shaft seal. Execution code xTxx
- (2) Applicable for shaft seal execution code xTxx
- (3) Shaft seal. Execution code xVxx
- (4) Applicable for shaft seal execution code xVxx

(5) Removed from August 2011

Notes:

- Components with Pos No within parenthesis are parts of subassembly

8. Pump dimensions

