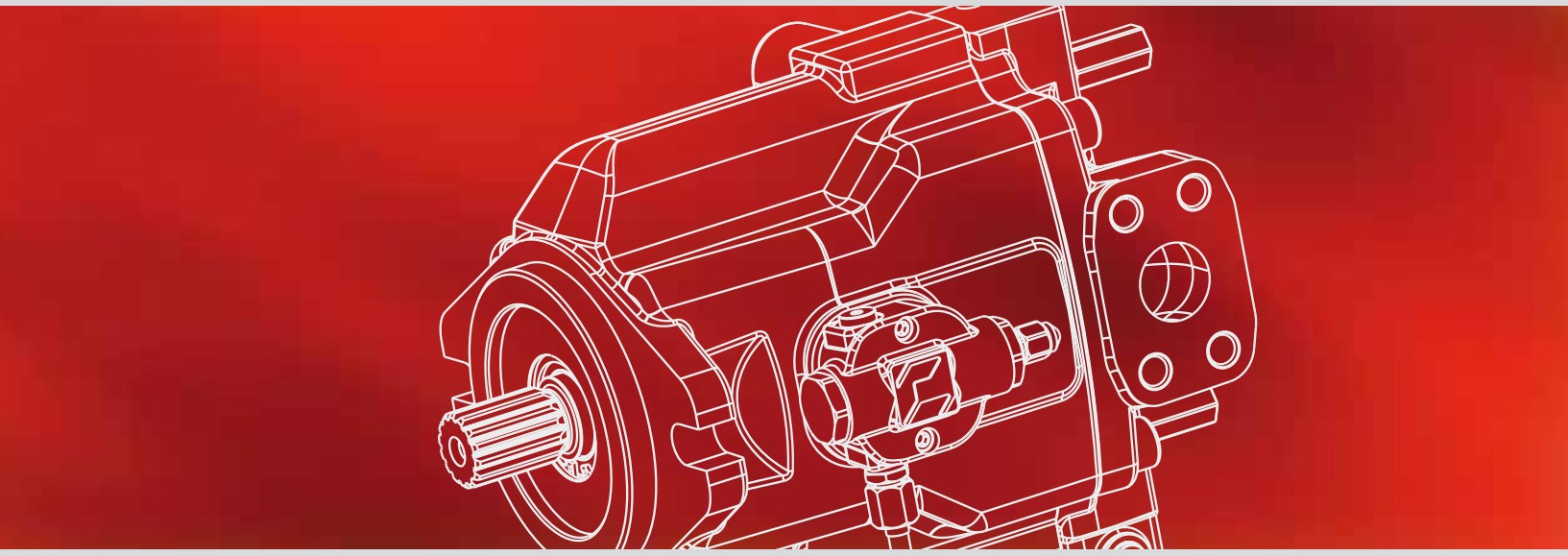
CASAPPA®
FLUID POWER DESIGN



VARIABLE DISPLACEMENTS AXIAL PISTON PUMPS

LVP SERIES

PLATA®

INDEX

Replaces: 05/12.2022

O 06/06.2026

O Modification from former edition.

INTRODUCTION

Variable displacement axial piston pumps with swash plate design. LVP pumps are ideally suited for medium and high pressure open circuit applications. They are available with a wide range of control options to regulate the pumps displacement. The drive shaft is designed for both radial and axial loads. The pumps are also available with a through drive option to have multiple pumps able to supply several hydraulic systems.

Replaces: 04/04.2013

DISPLACEMENTS O
From 14 cm^3/rev (0.85 in^3/rev)
To 160 cm^3/rev (9.76 in^3/rev)

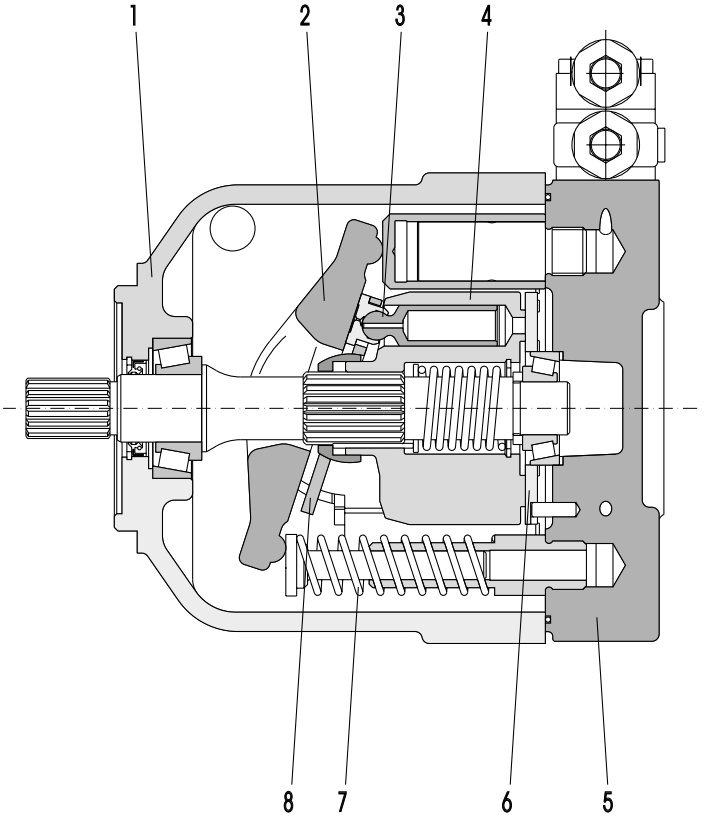
PRESSURE O
Max. continuous 315 bar (4568 psi)
Max. intermittent 350 bar (5075 psi)
Max. peak 420 bar (6090 psi)

SPEED
Max. 3000 min^{-1}

SECTOR
Mobile/Industrial

TYPICAL APPLICATIONS
- Wheel Loaders
- Telehandlers
- Container Lifts
- Mining Machines
- Truck Cranes
- Paving Machines
- Windmills - Green Energy
- Hydraulic Presses
- Hydraulic Power Units
- Injection Molding Machines

- Energy savings
- Low noise emission
- Operational flexibility
- Wide range of controls
- Short response times
- Drive shaft bearing suitable for radial and axial loads



1	Pump body
2	Swash plate
3	Piston
4	Cylinders block
5	Cover
6	Valve plate
7	Counterbalancing spring
8	Piston guide plate

O 06/06.2026

GENERAL INFORMATION / INSTRUCTIONS

DIRECTION OF ROTATION
Clockwise or anti-clockwise defined looking at the drive shaft.

HYDRAULIC FLUID
Mineral oil based hydraulic fluid conforming to DIN 51524, fire resistant fluids and biodegradable fluids according to the technical data shown in the tables on pages 4 ÷ 6. The system should be designed to prevent aeration of the hydraulic fluid.

FLUID VISCOSITY
The fluid viscosity range for optimal use of LVP pump is betwe en 15 and 35 cSt (77 and 163 SSU).
Functional limit conditions are:
max.: 1500 cSt (6818 SSU) at start up at minimum tempera ture of -25 °C (-13 °F) with straight and short inlet line.
min.: 10 cSt (58 SSU) at maximum temperature of 110 °C (230 °F)

FILTRATION
To ensure the optimal performance and the maximum life to the pump, the hydraulic fluid must have and maintain a fluid contamination within the values shown in the table below.

Working pressure bar (psi)	Δp < 140 (2030)	140 < Δp < 210 (2030) (3045)	Δp > 210 (3045)
Contamination class NAS 1638	9	8	7
Contamination class ISO 4406:1999	20/18/15	19/17/14	18/16/13
Achieved with filter ßx(c) ≥75 according to ISO 16889	10 µm	10 µm	10 µm

FILL WITH OIL BEFORE START-UP

Casappa recommends to use its own production filters:

IKRON® Fluid Filtration

STORAGE
The storage must be in a dry environment.
Max storage time in ideal conditions is 24 months.
The ideal storage temperature is between 5 °C (41 °F) and 20 °C (68 °F). No problem in case of temperature between -40 °C (-40 °F) and 50 °C (122 °F).
Below -40 °C (-40 °F) please contact us.

INSTALLATION
Check that the maximum coupling eccentricity stays within 0,25 mm (0.0098 in) to reduce shaft loads due to misalignment. It is advised to use a flexible coupling suitable to absorb eventual rotational shocks. For applications with axial and radial loads exceeding published standards, consult our sales department. The direction of rotation of the pump must agree with the prime mover rotation. Before installation, the case of the pump must be filled with fluid.

LINES
The lines must have a major diameter which is at least as large as the diameter of pump ports, and must be perfectly sealed. To reduce loss of power, the lines should be as short as possible, reducing the sources of hydraulic resistance (elbow, throttling, gate valves, etc.) to a minimum. A length of flexible tubing is recommended to reduce the transmission of vibrations. Before connecting the lines, remove any plug and make sure that the lines are perfectly clean. Check that the drain line is dimensioned in a way to guarantee a case pressure lower than 1,5 bar (22 psi) absolute. The drain line must be connected directly (no filter, no valves, no oil cooler) to the tank and must terminate below the oil level. Check that the dimensions of the suction line guarantee a pressure equal or superior to 0,8 bar (12 psi). Inlet pressure less than 0,8 bar (12 psi) could cause an increase of noise emission, the decrease of the pump performances and a reduction of its life expectancy.

STARTING UP
Check that all connections are secure and that the entire system is completely clean. Add oil to the tank always using a filter. Bleed the air from the circuit to help the filling. Turn on the system for a few moments at minimum speed, then bleed the circuit again and check the level of oil in the tank. Gradually increase the pressure and speed of rotation up to the pre-set operating levels, which must stay within the stated limits as specified in the catalogue.

FOR VERY LOW TEMPERATURE

STARTING UP
We strongly recommend to warm up the oil before running the machine. If this is not possible, the warm up of the oil and of the pump should be carried out following these instructions:
- Start the pump in stand-by condition at minimum speed. Keep this working condition until the pump case reaches -20 °C (-4 °F)
- Increase slowly the displacement.Max pressure permitted: 50 bar (725 psi). The maximum permitted speed is strictly connected to the layout of the inlet circuit; check that there is no cavitation before increasing the speed.
- Keep this working condition until the oil temperature in the whole system is -10 °C (14 °F).
- Maximum pressure can be achieved from now on.
- Always check the outlet flow to prevent cavitation damage.

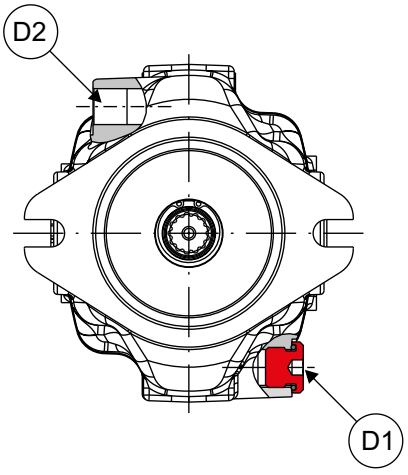
All the temperature are referred to oil with viscosity ISO VG 32 according to DIN 51 519.

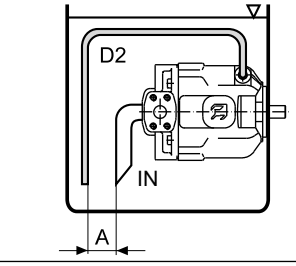
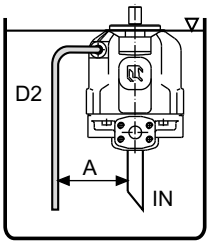
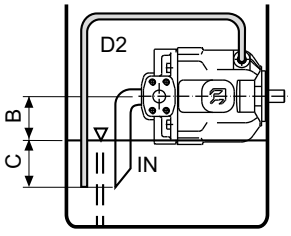
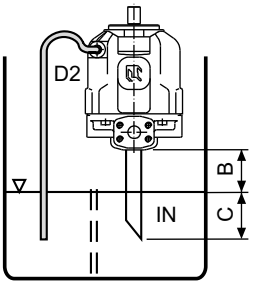
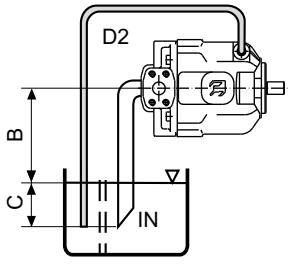
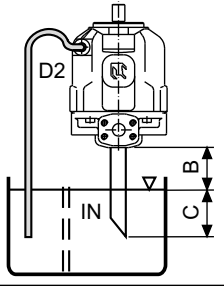
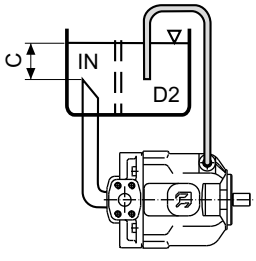
SUGGESTIONS
To prevent cavitation at low temperature we suggest:
- To warm up the tank
- To pressurize the tank
- To oversize the inlet hose

05/12.2022

MOUNTING POSITIONS

Standard pump is supplied with the D2 drain hole open and D1 plugged.
Before installation fill the pump with hydraulic oil for at least 3/4 of the volume keeping it in horizzontal position.
The pump can be mounted in a horizontal or vertical position.
The highest of the case drain ports must be used to keep the required filling oil.
If D2 is not the highest drain port it must be closed by moving the plug from D1 hole chosen for the drain line.
The pump can be located above the oil level if the absolute pressure at the inlet port stays within the stated limits.
With exception of pump mounted below the oil level, we recommend to interpose a baffle plate between inlet and drain line.
To reduce further noise emission, we recommend to mount the pump below the oil level and avoid suction lines with sharp restrictions.



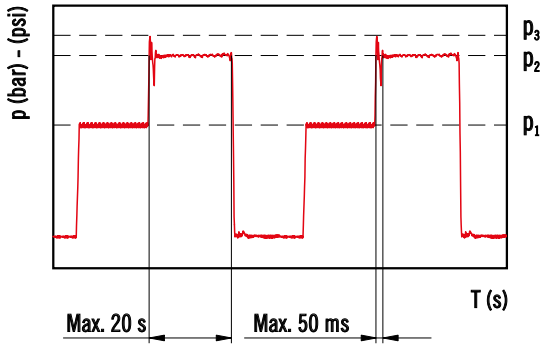
HORIZONTAL MOUNTING		VERTICAL MOUNTING	
	**Arrangement inside the tank.** Minimum oil level equal or above the pump mounting face. A ≥ 200 mm (7.874 in)		**Arrangement inside the tank.** Minimum oil level equal or above the pump mounting face. A ≥ 200 mm (7.874 in)
	**Arrangement inside the tank.** Minimum oil level below the pump mounting face. Min. inlet pressure= 0,8 bar abs (24 in Hg) B ≤ 800 mm (31.4961 in) C = 200 mm (7.874 in)		**Arrangement inside the tank.** Minimum oil level below the pump mounting face. Min. inlet pressure= 0,8 bar abs (24 in Hg) B ≤ 800 mm (31.4961 in) C = 200 mm (7.874 in)
	**Arrangement outside the tank above oil level.** Min. inlet pressure= 0,8 bar abs (24 in Hg) B ≤ 800 mm (31.4961 in) C = 200 mm (7.874 in)		**Arrangement outside the tank above oil level.** Min. inlet pressure= 0,8 bar abs (24 in Hg) B ≤ 800 mm (31.4961 in) C = 200 mm (7.874 in)
	**Arrangement outside the tank below oil level.** C = 200 mm (7.874 in)		

IN= inlet line - D2= drain line - A= min. distance between the line - B+C= permissible suction height - C= line immersion depth

03/01.2007

FEATURES

Pressure definition



p_1 Constant operating pressure
p_2 System pressure (relief valve setting)
p_3 Peak of pressure

The peak of pressure is the max pressure allowed and it corresponds to the overshoot of the relief valve.

Please note that both relief valve setting and overshoot must be lower than their limits.
If the relief setting is compliant but the overshoot is higher than the limit, the relief setting must be decreased until the overshoot is compliant to Casappa limit.

Please contact us for high frequency applications.

05/12.2022

FEATURES

Technical data with mineral oil

HL or **HLP** mineral oil based hydraulic fluid to DIN 51524

Replaces: 04/04.2013

Pump type LVP			30	48	75	90	140	O 160
Max. displacement (theor.) V_{max}	cm^3/rev (in^3/rev)		28,7 (1.75)	45,4 (2.77)	73,6 (4.49)	87,9 (5.36)	140 (8.54)	160 (9.76)
Inlet pressure	bar abs. (in Hg)	min.	0.8 (12)					
	bar abs. (psi)	max.	25 (363)					
Max. outlet pressure p_{max}	bar (psi)	p_1	280 (4060)	280 (4060)	280 (4060)	250 (3625)	315 (4568)	280 (4060)
		p_2	315 (4568)	315 (4568)	315 (4568)	280 (4060)	350 (5075)	315 (4568)
		p_3	350 (5075)	350 (5075)	350 (5075)	315 (4568)	420 (6090)	390 (5655)
Max. drain line pressure	bar abs. (psi).		2 (29) But max. 0,5 bar higher than inlet pressure					
Min. speed (recommended)	min^{-1}		500					
Max. speed n_{max}	min^{-1}	@ V_{max} (1)	3000	2600	2600	2200	2000	1800
Max. delivery (theor.)	l/min (US gpm)	@ n_{max}	86,1 (22.75)	118,04 (31.19)	191,36 (50.56)	193,4 (51.10)	280 (73.98)	288 (76.09)
		@ 1800 min^{-1}	51,7 (13.66)	81,7 (21.59)	132,5 (35.01)	158,2 (41.80)	252 (66.58)	288 (76.09)
		@ 1500 min^{-1}	43,1 (11.39)	68,1 (17.99)	110,4 (29.17)	131,9 (34.85)	210 (54.48)	240 (63.41)
Max. power (theor.) ($\Delta p = p_{max}$ cont.)	kW (HP)	@ n_{max}	40,2 (53.9)	55,1 (73.8)	89,3 (119.7)	80,6 108.0)	147 (197.0)	134,4 (180.1)
		@ 1800 min^{-1}	24,1 (32.3)	38,1 (51.1)	61,8 (82.8)	65,9 (88.3)	132,3 (177.3)	134,4 (180.1)
		@ 1500 min^{-1}	20,1 (26.9)	31,8 (42.6)	51,5 (69.0)	54,9 (73.6)	110,3 (147.8)	112 (150.1)
Max. torque (theor.)	Nm (lbf in)	@ p_{max} cont.	127,9 (1132)	202,3 (1791)	328,0 (2903)	349,8 (3096)	702,2 (6215)	713,3 (6313)
		@ 100 bar (1450 psi)	45,7 (404)	72,3 (640)	117,1 (1036)	139,9 (1238)	222,9 (1973)	254,7 (2254)
Moment of inertia	kgm^2 ($ft2$ lbs)		0,0020 (0.05)	0,0030 (0.07)	0,0080 (0.19)	0,0080 (0.19)	0,0023 (0.05)	0,0023 (0.05)
Fill volume	l (US galons)		0,7 (0.18)	0,9 (0.24)	1,5 (0.40)	1,5 (0.40)	2,8 (0.74)	2,8 (0.74)
Mass (without oil)	kg (lbs)		18 (39.69)	24 (52.92)	33 (72.77)	33 (72.77)	69 (152.15)	69 (152.15)
Seals (●)				N (●)		V		
Operating temperature	°C (°F)	min.		-25 (-13)		-15 (5)		
		max. cont.		80 (176)		110 (230)		
		max. peak		100 (212)		125 (257)		

O 06/06.2026

(1) = With an inlet pressure of 1 bar abs (14.5 psi) and viscosity between 15 and 35 cSt (77 and 163 SSU).
For Hoist applications the maximun speed limit is higher. Please contact us for more information.
(●) = N-PV Buna with Viton shaft seal only for LVP140 and LVP160.
Reducing the displacement or increasing the inlet pressure the max. speed changes. See table at page 10.
Please contact us for different working conditions.

FEATURES

Technical data restrictions with fire resistant fluid

(1) = with an inlet pressure of 1 bar abs (14.5 psi) and viscosity between 15 and 35 cSt (77 and 163 SSU).

Replaces: 04/04.2013

HFA - Oil emulsion in water (5 ÷ 15 % of oil)

Pump type LVP			30	48	75	90	140 O	160
Max. outlet pressure p_{max}	bar (psi)	continuous	140 (2030)					
		intermittent	150 (2175)					
		peak	160 (2320)					
Max. speed n_{max}	min^{-1}	@ V_{max} (1)	1900	1700	1600	1450	1450	1400
Seals			N= Buna (●)					
Operating temperature	°C (°F)	min.	2 (36)					
		max.	55 (131)					
Bearing life (ref. mineral oil)	%		20 %					

(●) = N-PV Buna with Viton shaft seal only for LVP140 and LVP160.

HFB - Water emulsion in oil (40 % of water)

Pump type LVP			30	48	75	90	140 O	160
Max. outlet pressure p_{max}	bar (psi)	continuous	160 (2320)					
		intermittent	170 (2465)					
		peak	180 (2610)					
Max. speed n_{max}	min^{-1}	@ V_{max} (1)	2050	1850	1700	1550	1500	1450
Seals			N= Buna (●)					
Operating temperature	°C (°F)	min.	2 (36)					
		max.	60 (140)					
Bearing life (ref. mineral oil)	%		40 %					

(●) = N-PV Buna with Viton shaft seal only for LVP140 and LVP160.

HFC - Water-glycol (35 ÷ 55 % of water)

Pump type LVP			30	48	75	90	140 O	160
Max. outlet pressure p_{max}	bar (psi)	continuous	180 (2610)					
		intermittent	195 (2828)					
		peak	210 (3045)					
Max. speed n_{max}	min^{-1}	@ V_{max} (1)	2050	1850	1700	1550	1500	1450
Seals			N= Buna (●)					
Operating temperature	°C (°F)	min.	-10 (14)					
		max.	60 (140)					
Bearing life (ref. mineral oil)	%		40 %					

(●) = N-PV Buna with Viton shaft seal only for LVP140 and LVP160.

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FEATURES

Technical data restrictions with fire resistant fluid

(1) = with an inlet pressure of 1 bar abs (14.5 psi) and viscosity between 15 and 35 cSt (77 and 163 SSU).

HFD - Phosphate ester

Pump type LVP			30	48	75	90	140	O	160
Max. outlet pressure p_{max}	bar (psi)	continuous	200 (2900)						
		intermittent	220 (3190)						
		peak	240 (3480)						
Max. speed n_{max}	min^{-1}	@ V_{max} (1)	2050	1850	1700	1550	1500		1450
Seals			V= Viton						
Operating temperature	°C (°F)	min.	-10 (14)						
		max.	80 (176)						
Bearing life (ref. mineral oil)	%		90 %						

Technical data restrictions with biodegradable fluids

(●) = N-PV Buna with Viton shaft seal only for LVP140 and LVP160.

HETG - Natural based fluid (the water content must never exceed 0,1 %)

Pump type LVP			30	48	75	90	140	O	160
Max. outlet pressure p_{max}	bar (psi)	continuous	180 (2610)						
		intermittent	195 (2828)						
		peak	210 (3045)						
Max. speed n_{max}	min^{-1}	@ V_{max} (1)	2050	1850	1700	1550	1500		1450
Seals			N= Buna (●)						
Operating temperature	°C (°F)	min.	-10 (14)						
		max.	60 (140)						
Bearing life (ref. mineral oil)	%		50 %						

HEPG - Polyglycol based synthetic fluid (the water content must never exceed 0,1 %)

Pump type LVP			30	48	75	90	140	O	160
Max. outlet pressure p_{max}	bar (psi)	continuous	180 (2610)						
		intermittent	195 (2828)						
		peak	210 (3045)						
Max. speed n_{max}	min^{-1}	@ V_{max} (1)	2050	1850	1700	1550	1500		1450
Seals			V= Viton						
Operating temperature	°C (°F)	min.	-15 (5)						
		max.	90 (194)						
Bearing life (ref. mineral oil)	%		75 %						

HEES - Synthetic esters (the water content must never exceed 0,1 %)

Pump type LVP			30	48	75	90	140	O	160
Seals			V= Viton						
Operating temperature	°C (°F)	min.	-15 (5)						
		max.	80 (176)						
Bearing life (ref. mineral oil)	%		100 %						

Replaces: 04/04.2013

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FEATURES

Design calculations for pump

Q	l/min (US gpm)	Flow
M	Nm (lbf in)	Torque
P	kW (HP)	Power
V	cm^3/rev (in^3/rev)	Displacement
n	min^{-1}	Speed
Δp	bar (psi)	Pressure
$\eta_v = \eta_v$ (V, Δp, n)		Volumetric efficiency
$\eta_{hm} = \eta_{hm}$ (V, Δp, n)		Hydro-mechanical efficiency
$\eta_t = \eta_v \bullet \eta_{hm}$		Overall efficiency

$$Q = Q_{theor.} \bullet \eta_v$$

$$Q_{theor.} = \frac{V\ (cm^3/rev) \bullet n\ (min^{-1})}{1000} \quad [l/min]$$

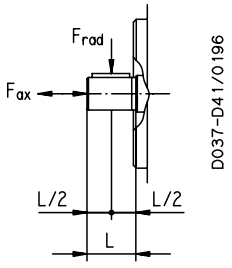
$$M = \frac{M_{theor.}}{\eta_{hm}}$$

$$M_{theor.} = \frac{\Delta p\ (bar) \bullet V\ (cm^3/rev)}{62{,}83} \quad [Nm]$$

$$P_{IN} = \frac{P_{OUT}}{\eta_t}$$

$$P_{OUT} = \frac{\Delta p\ (bar) \bullet Q\ (l/min)}{600} \quad [kW]$$

Max. permissible load on drive shaft

Pump type				LVP30	LVP48	LVP75	LVP90	LVP140	LVP160
F_{ax} Axial force			N (lbf)	1000 (225)	1500 (337)	2000 (450)	2000 (450)	3000 (675)	3000 (675)
F_{rad} Radial force		@ L/2	N (lbf)	1500 (337)	1500 (337)	3000 (675)	3000 (675)	4000 (900)	4000 (900)

% Variation of the max. speed in relation of the inlet pressure and/or displacement reduction

Inlet pressure	Displacement %				
psi (bar abs)	65	70	80	90	100
12 (0,8)	120	115	105	97	90
13 (0,9)	120	120	110	103	95
14.5 (1,0)	120	120	115	107	100
17 (1,2)	120	120	120	113	106
20 (1,4)	120	120	120	120	112
23 (1,6)	120	120	120	120	117
29 (2,0)	120	120	120	120	120

% Variation of the max. speed

Max. speed must not exceed the limits specified at page 7.

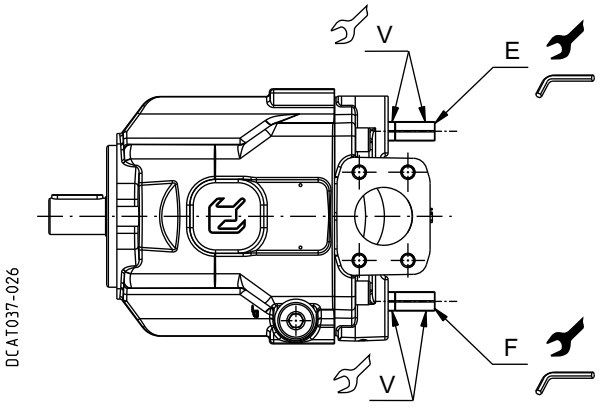
Example 1
Displacement: 100 %
Speed: 100 %
Inlet pressure: 1,0 bar abs. (14.5 psi)

Example 2
Displacement: 80 %
Inlet pressure: 1,0 bar abs. (14.5 psi)
Speed: 115 %

Replaces: 04/04.2013
06/06.2026

Replaces: 04/04.2013

DISPLACEMENT SETTING



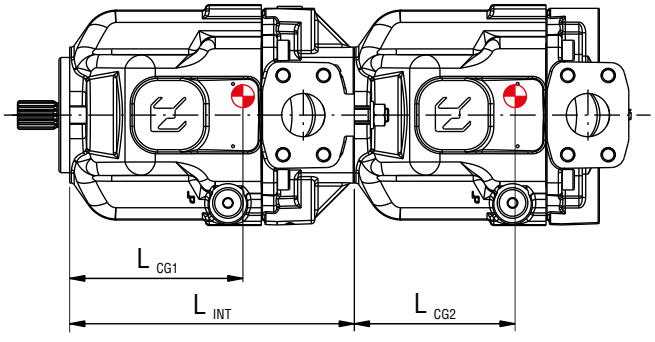
E: Max. displacement limiter
F: Min. displacement limiter
G: Min. and Max. displacement limiter

			LVP30	LVP48	LVP75	LVP90	O LVP140	O LVP160
Max. displacement setting range	cm³/rev (in³/rev)	from	20,1 (1.23)	31,8 (1.94)	36,8 (2.24)	44,0 (2.68)	87,9 (5.36)	141 (8.60)
		to	28,7 (1.75)	45,4 (2.77)	73,6 (4.49)	87,9 (5.36)	140 (8.54)	160 (9.76)
Min. displacement setting range	cm³/rev (in³/rev)	from	0	0	0	0	0	0
		to	7,2 (0.44)	4,5 (0.27)	36,8 (2.24)	44 (2.68)	70 (4.27)	80 (4.88)
One turn of screw changes pump displacement by approximately	cm³/rev (in³/rev)	E	2 (0.12)	2,7 (0.16)	3,9 (0.24)	3,9 (0.24)	5,8 (0.35)	5,8 (0.35)
		F						
			14	14	17	17	17	17
			4	4	5	5	5	5
Tightening torque	Nm (lbf in)	V	15 ±1 (124 ÷ 142)	15 ±1 (124 ÷ 142)	15 ±1 (124 ÷ 142)	15 ±1 (124 ÷ 142)	15 ±1 (124 ÷ 142)	15 ±1 (124 ÷ 142)

Setting ranges with standard limiter. Please contact us for different working conditions.

CENTER OF GRAVITY

O 06/06.2026



Center of gravity

$$M_{MF} = \frac{L_{CG1} \bullet m_1 + (L_{INT} + L_{CG2}) \bullet m_2}{102} \quad [Nm]$$

M_{MF} : Load moment on mounting flange
L_{CG} : Distance from center of gravity to mounting flange [mm]
m : Weight (kg)

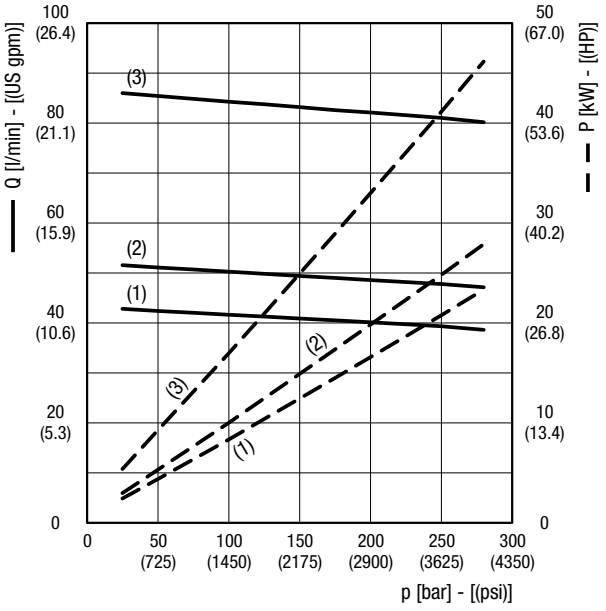
		LVP30	LVP48	LVP75	LVP90	O LVP140	O LVP160
L_{CG1}	mm (in)	110 (4.3307)	130 (5.1181)	145 (5.7087)	145 (5.7087)	162 (6.4016)	162 (6.4016)
L_{CG2}	mm (in)	102 (4.0157)	118 (4.6457)	125 (4.9213)	125 (4.9213)	–	–
L_{INT}	mm (in)	values at page 47					

For single pumps refer to L_{CG2} values.
Avarage data, please contact us for specific values.

LVP30 OPERATING CURVES

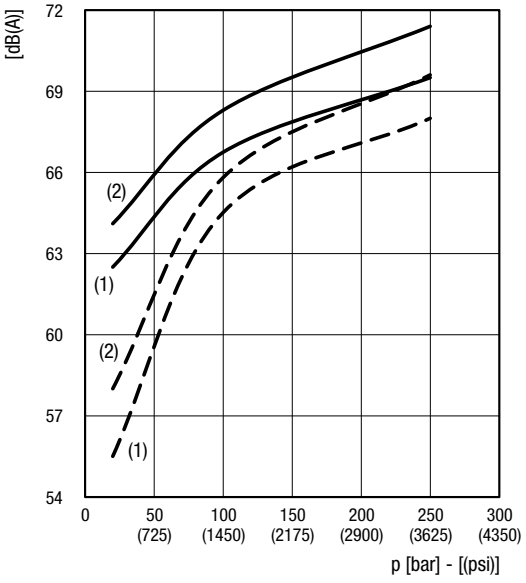
Each curve has been obtained at 50 °C (122 °F), using oil with viscosity 46 cSt (210 SSU) at 40 °C (104 °F) and at these speed: (1) 1500 min^{-1}
(2) 1800 min^{-1}
(3) 3000 min^{-1}

Delivery / power
@ max. displacement

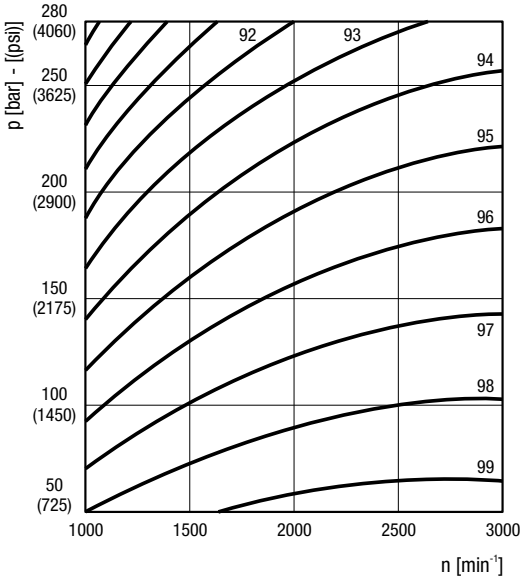


Noise level Distance from microphone to pump = 1 m (39.37 in)

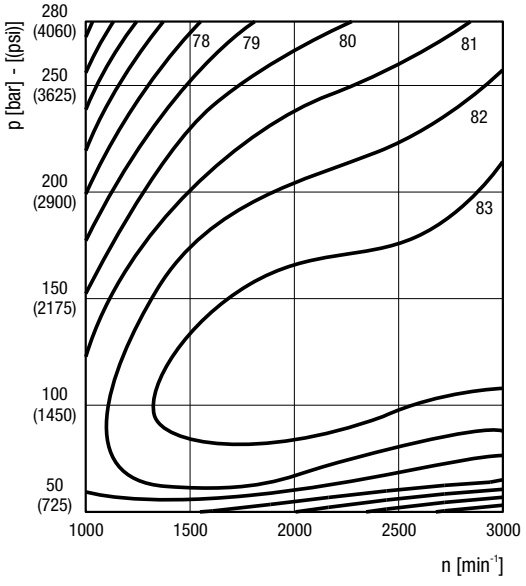
——— @ max. displacement – – – @ min. displacement



Volumetric efficiency
@ max. displacement



Overall efficiency
@ max. displacement



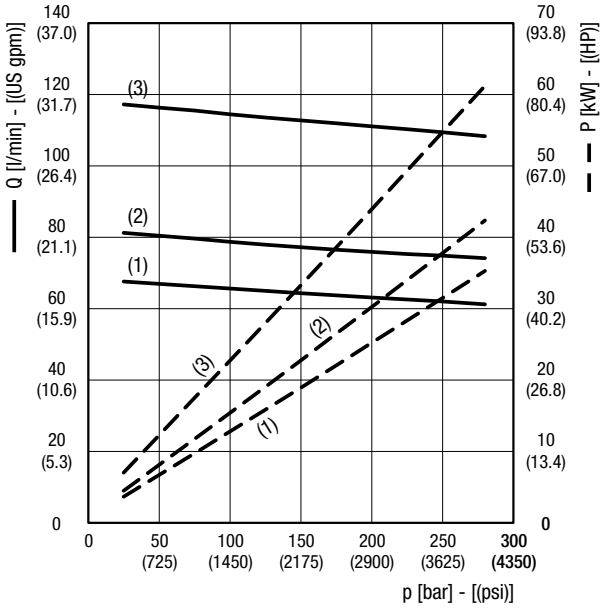
04/04.2013

Values shown in the diagrams are indicative only. Actual values may vary depending on the pump configuration.

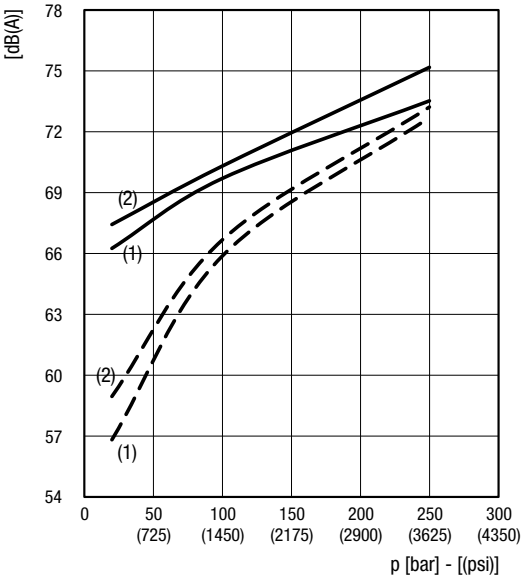
LVP48 OPERATING CURVES

Each curve has been obtained at 50 °C (122 °F), using oil with viscosity 46 cSt (210 SSU) at 40 °C (104 °F) and at these speed: (1) 1500 min^{-1}
(2) 1800 min^{-1}
(3) 2600 min^{-1}

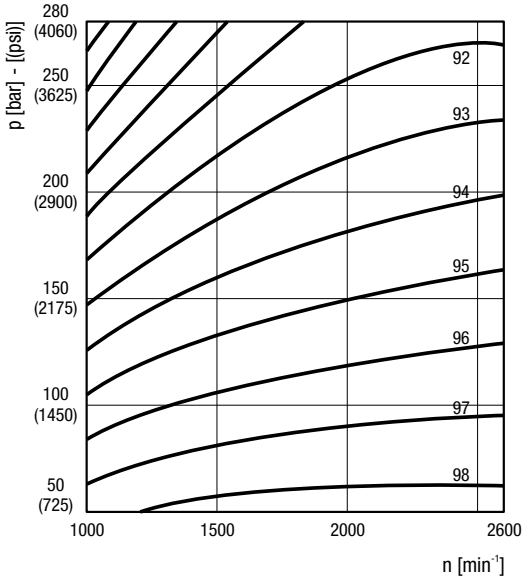
Delivery / power
@ max. displacement



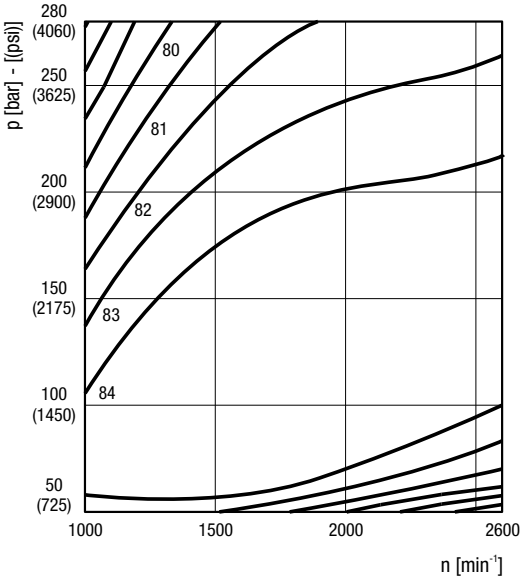
Noise level Distance from microphone to pump = 1 m (39.37 in)
——— @ max. displacement – – – @ min. displacement



Volumetric efficiency
@ max. displacement



Overall efficiency
@ max. displacement

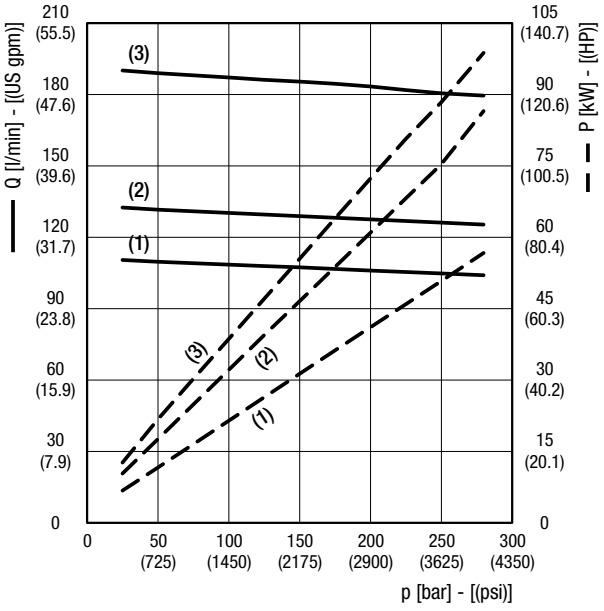


Values shown in the diagrams are indicative only. Actual values may vary depending on the pump configuration.

LVP75 OPERATING CURVES

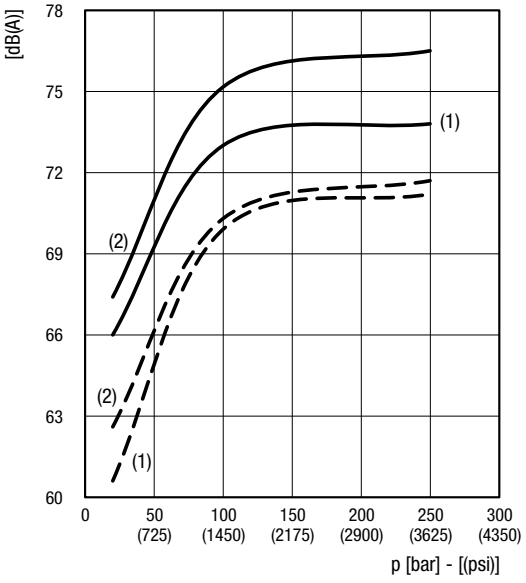
Each curve has been obtained at 50 °C (122 °F), using oil with viscosity 46 cSt (210 SSU) at 40 °C (104 °F) and at these speed: (1) 1500 min^{-1}
(2) 1800 min^{-1}
(3) 2600 min^{-1}

Delivery / power
@ max. displacement

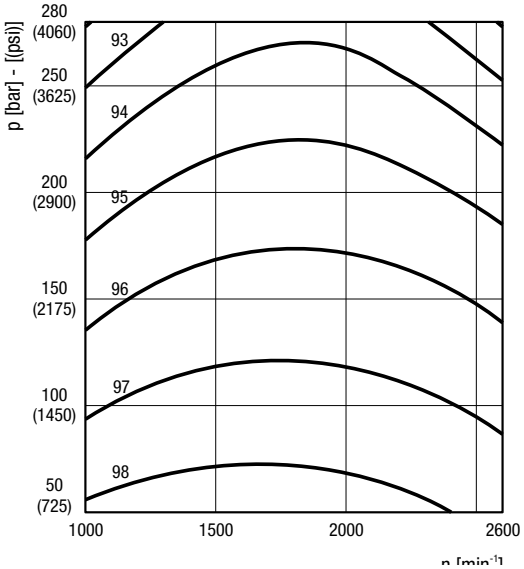


Noise level Distance from microphone to pump = 1 m (39.37 in)

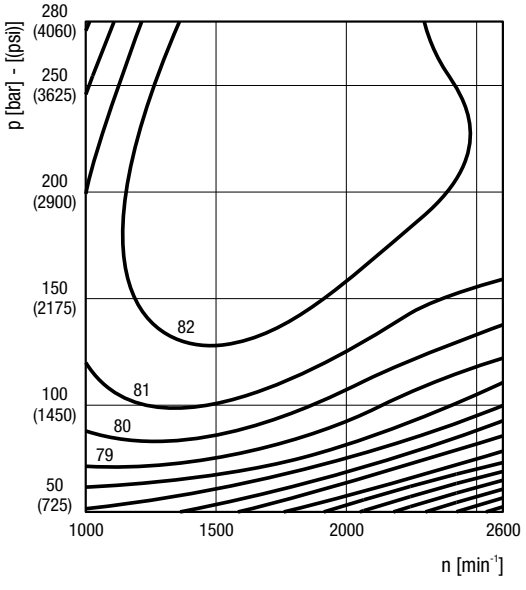
——— @ max. displacement – – – @ min. displacement



Volumetric efficiency
@ max. displacement



Overall efficiency
@ max. displacement



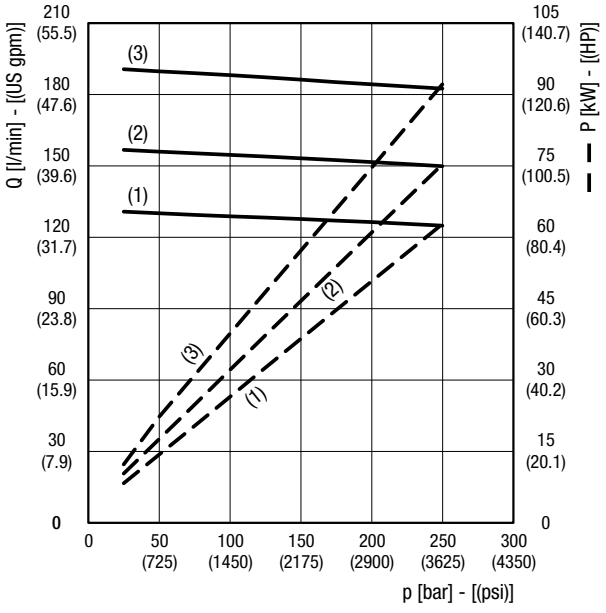
04/04.2013

Values shown in the diagrams are indicative only. Actual values may vary depending on the pump configuration.

LVP90 OPERATING CURVES

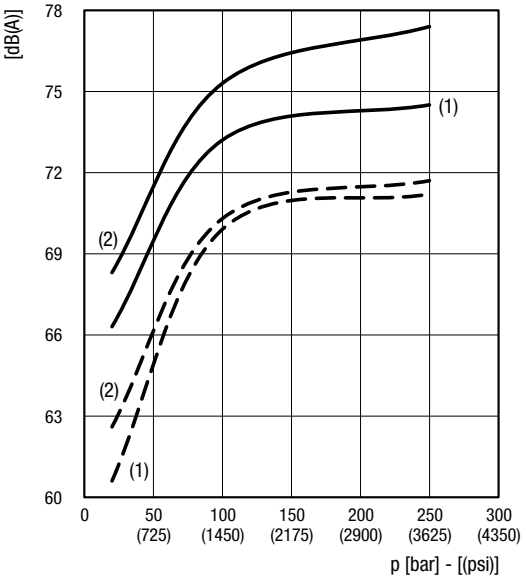
Each curve has been obtained at 50 °C (122 °F), using oil with viscosity 46 cSt (210 SSU) at 40 °C (104 °F) and at these speed: (1) 1500 min^{-1}
(2) 1800 min^{-1}
(3) 2200 min^{-1}

Delivery / power
@ max. displacement

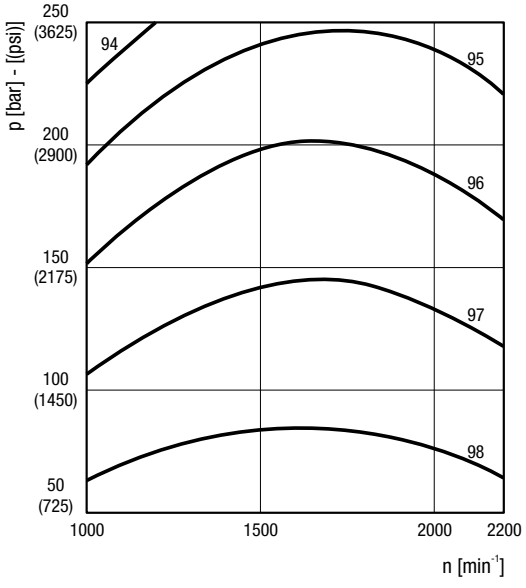


Noise level Distance from microphone to pump = 1 m (39.37 in)

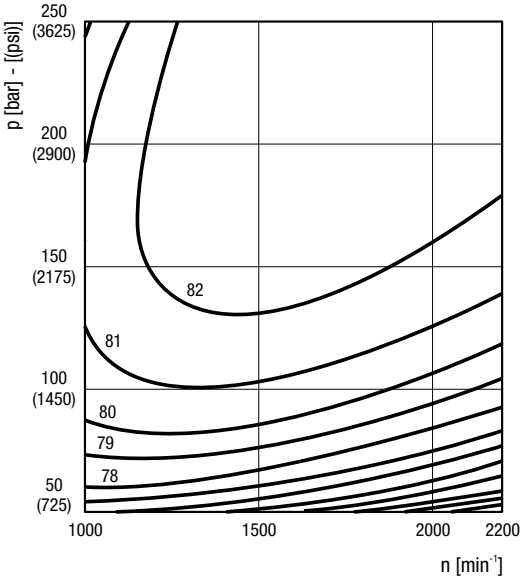
——— @ max. displacement – – – @ min. displacement



Volumetric efficiency
@ max. displacement



Overall efficiency
@ max. displacement

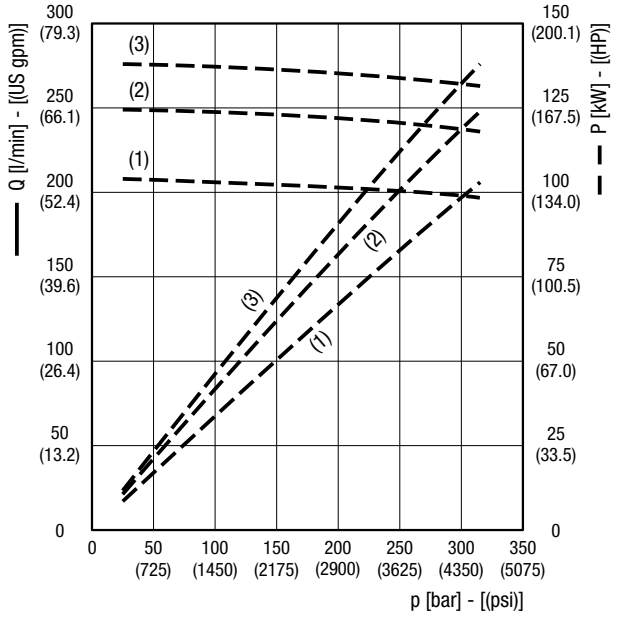


Values shown in the diagrams are indicative only. Actual values may vary depending on the pump configuration.

LVP140 OPERATING CURVES

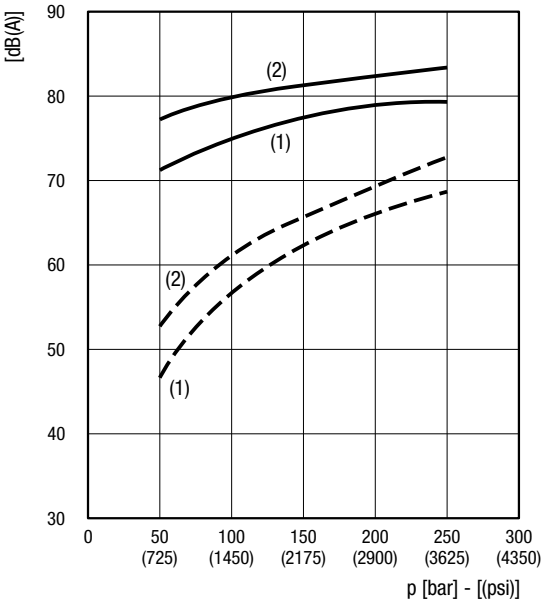
Each curve has been obtained at 50 °C (122 °F), using oil with viscosity 46 cSt (210 SSU) at 40 °C (104 °F) and at these speed: (1) 1500 min^{-1}
(2) 1800 min^{-1}
(3) 2000 min^{-1}

Delivery / power
@ max. displacement

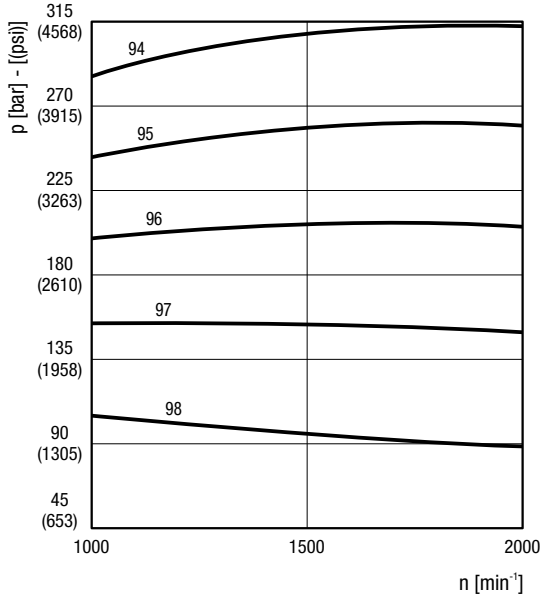


Noise level Distance from microphone to pump = 1 m (39.37 in)

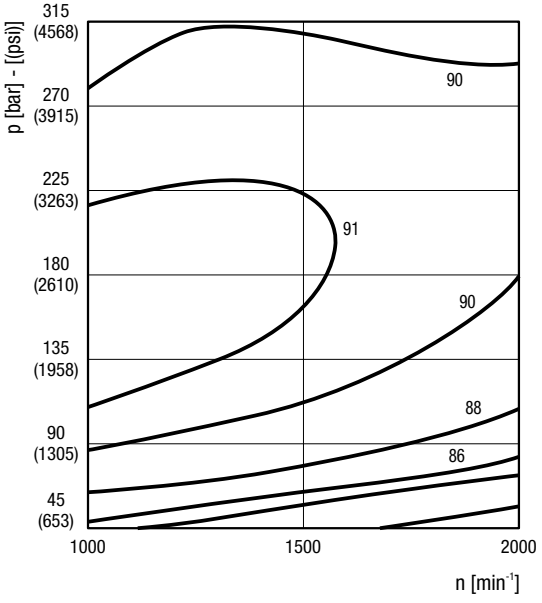
——— @ max. displacement – – – @ min. displacement



Volumetric efficiency
@ max. displacement



Overall efficiency
@ max. displacement



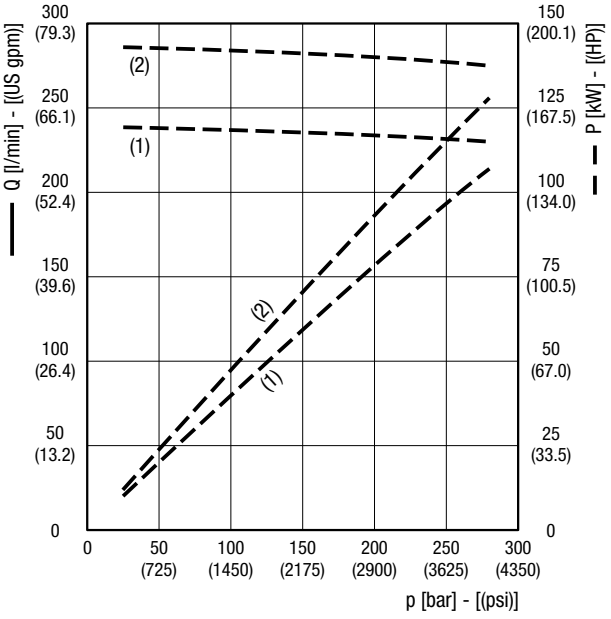
06/06.2026

Values shown in the diagrams are indicative only. Actual values may vary depending on the pump configuration.

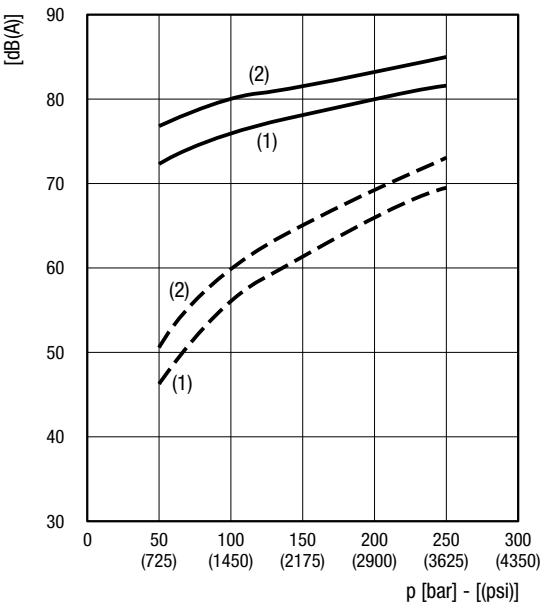
LVP160 OPERATING CURVES

Each curve has been obtained at 50 °C (122 °F), using oil with viscosity 46 cSt (210 SSU) at 40 °C (104 °F) and at these speed: (1) 1500 min^{-1}
(2) 1800 min^{-1}

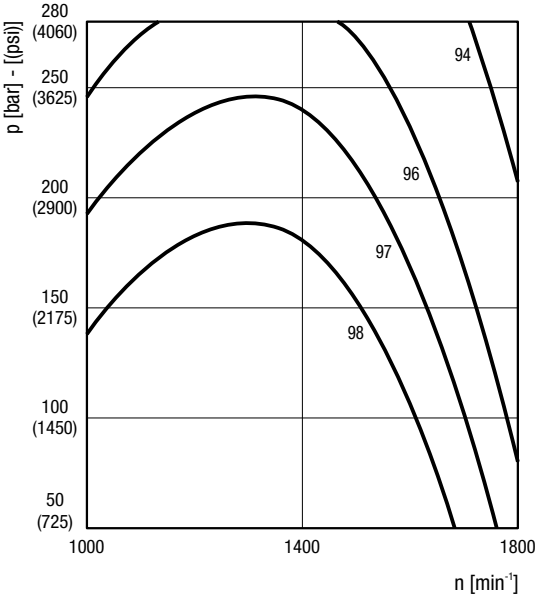
Delivery / power
@ max. displacement



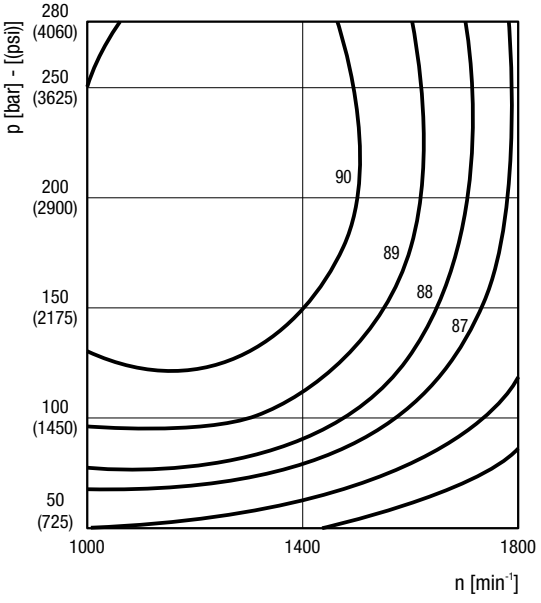
Noise level Distance from microphone to pump = 1 m (39.37 in)
——— @ max. displacement – – – @ min. displacement



Volumetric efficiency
@ max. displacement



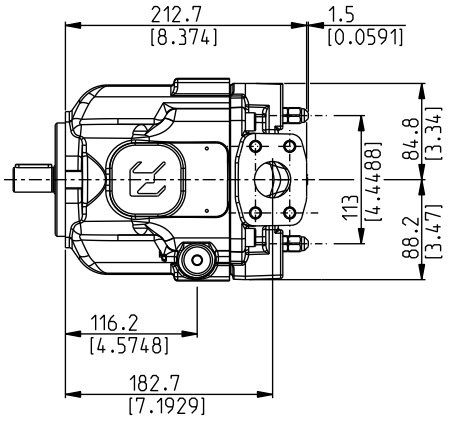
Overall efficiency
@ max. displacement

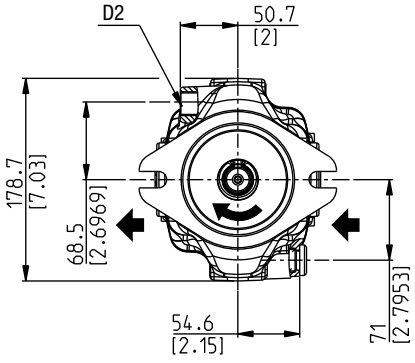


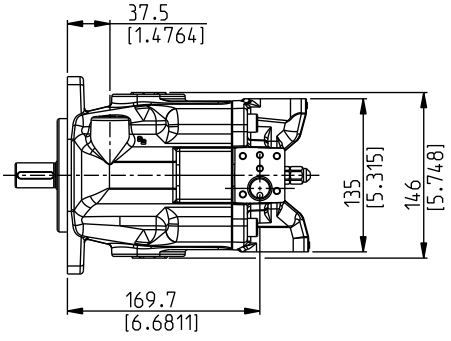
Values shown in the diagrams are indicative only. Actual values may vary depending on the pump configuration.

LVP30 SIDE PORTS - DIMENSIONS L

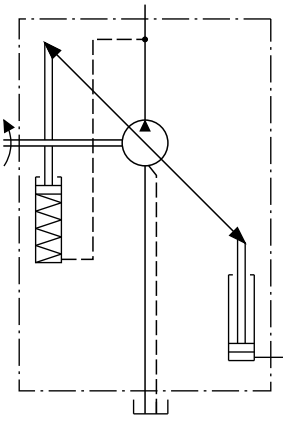
Drive shafts: see page 25
Mounting flanges: see page 29
Ports: see page 33 ÷ 35







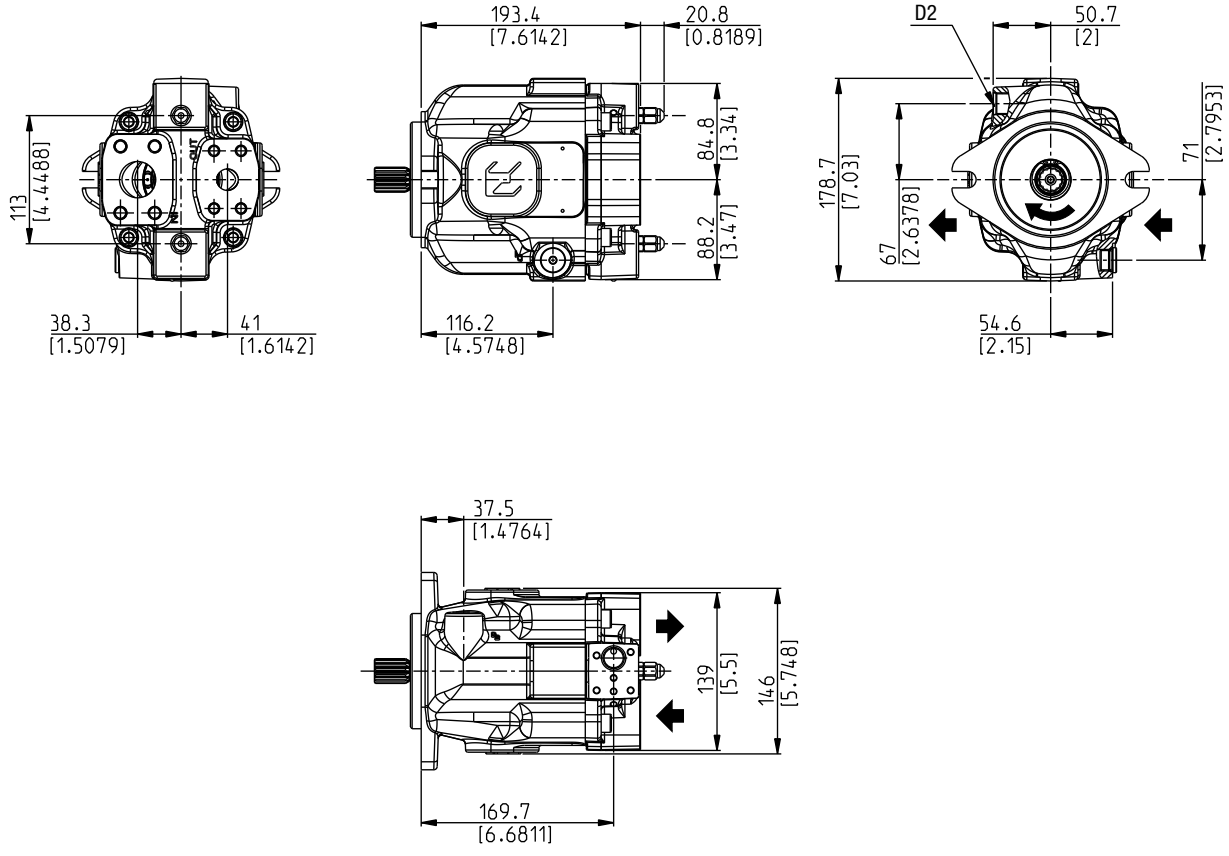
DCAT037-020



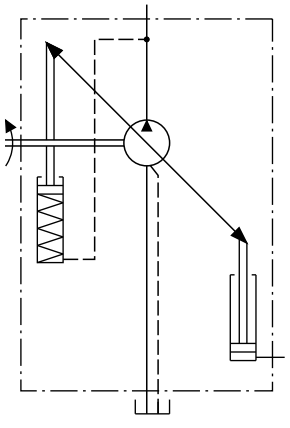
05/12.2022

LVP30 REAR PORTS - DIMENSIONS P

Drive shafts: see page 25
Mounting flanges: see page 29
Ports: see page 33 ÷ 35



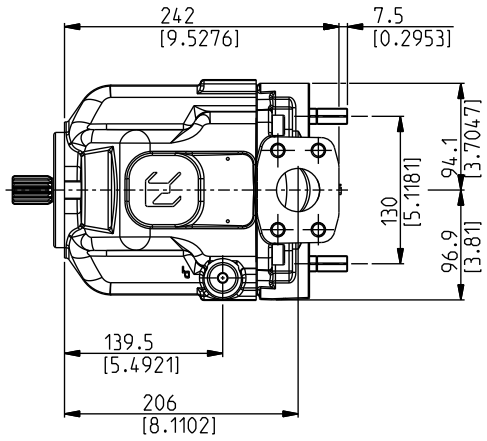
DCAT037-021

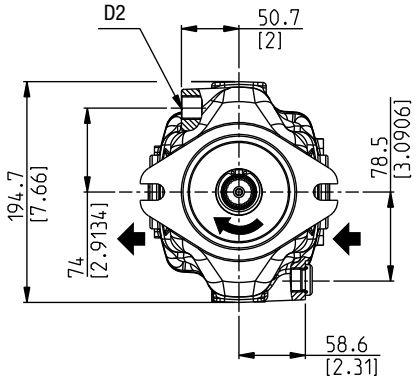


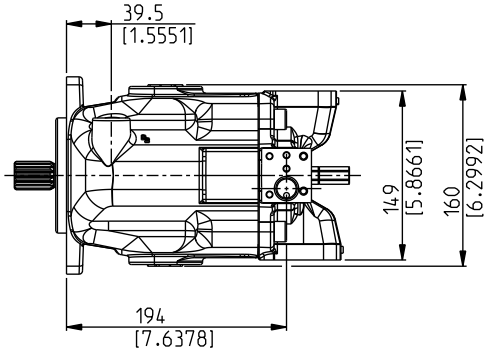
05/12.2022

LVP48 SIDE PORTS - DIMENSIONS L

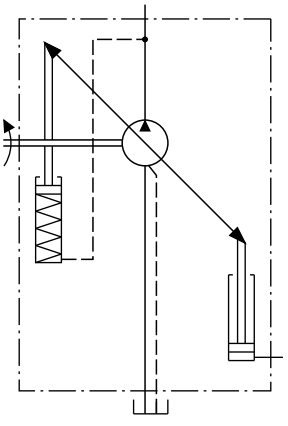
Drive shafts: see page 25
Mounting flanges: see page 29
Ports: see page 33 ÷ 35







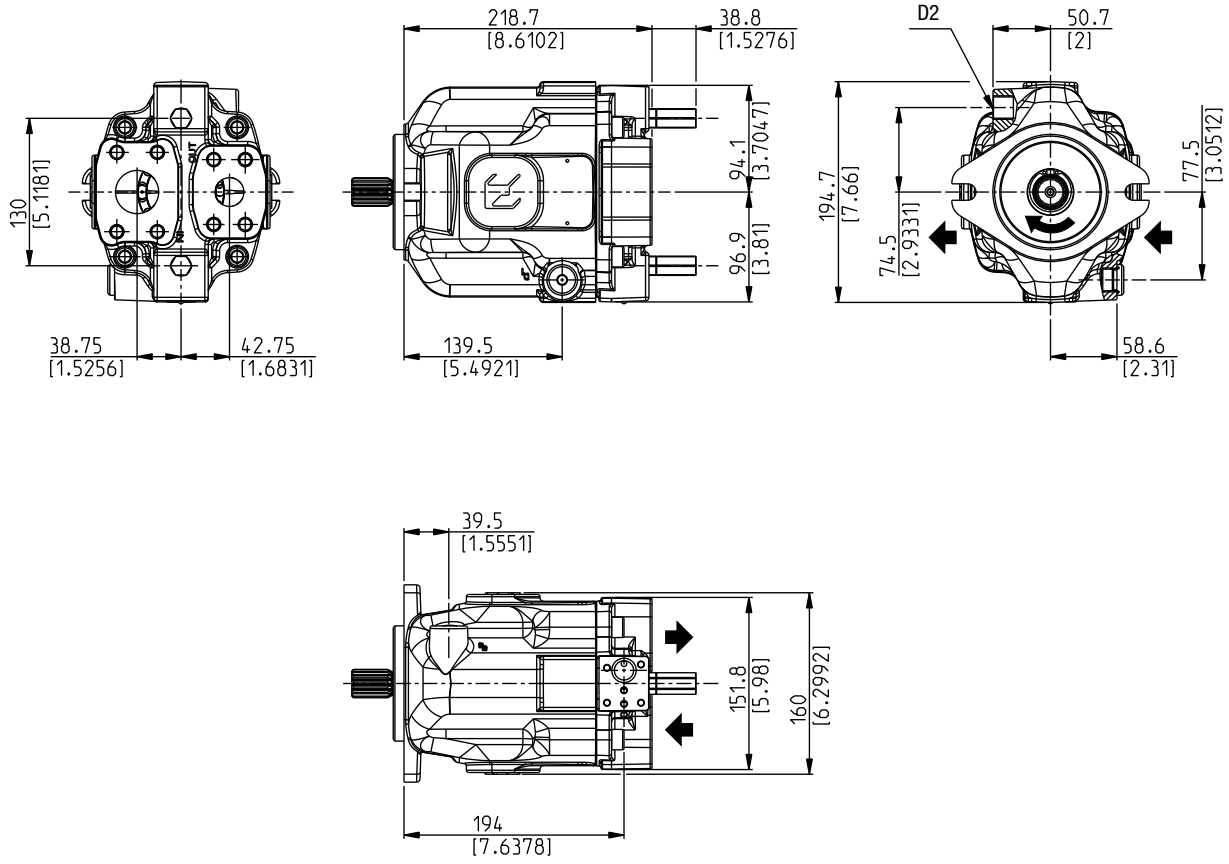
DCAT037-022

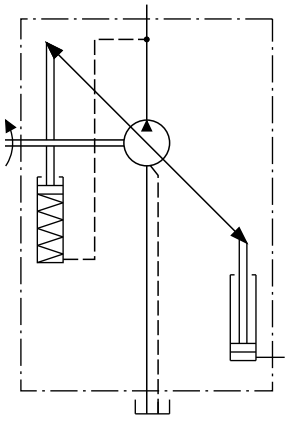


05/12.2022

LVP48 REAR PORTS - DIMENSIONS P

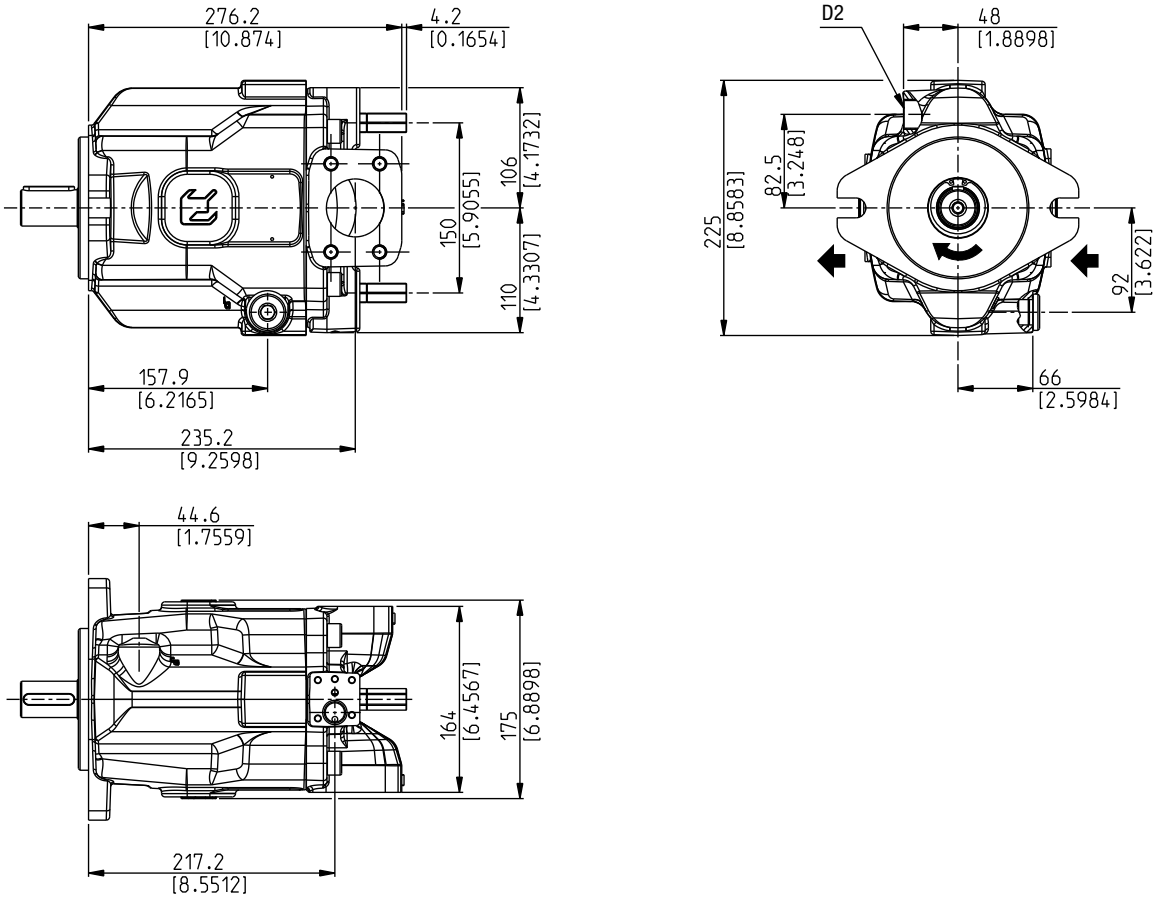
Drive shafts: see page 25
Mounting flanges: see page 29
Ports: see page 33 ÷ 35

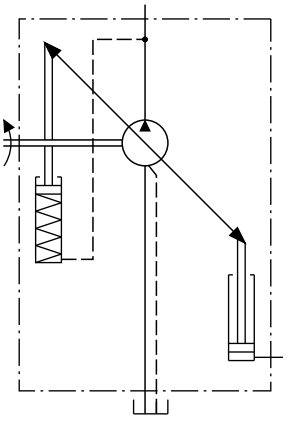




LVP75-90 SIDE PORTS - DIMENSIONS L

Drive shafts: see page 26
Mounting flanges: see page 30
Ports: see page 33 ÷ 35

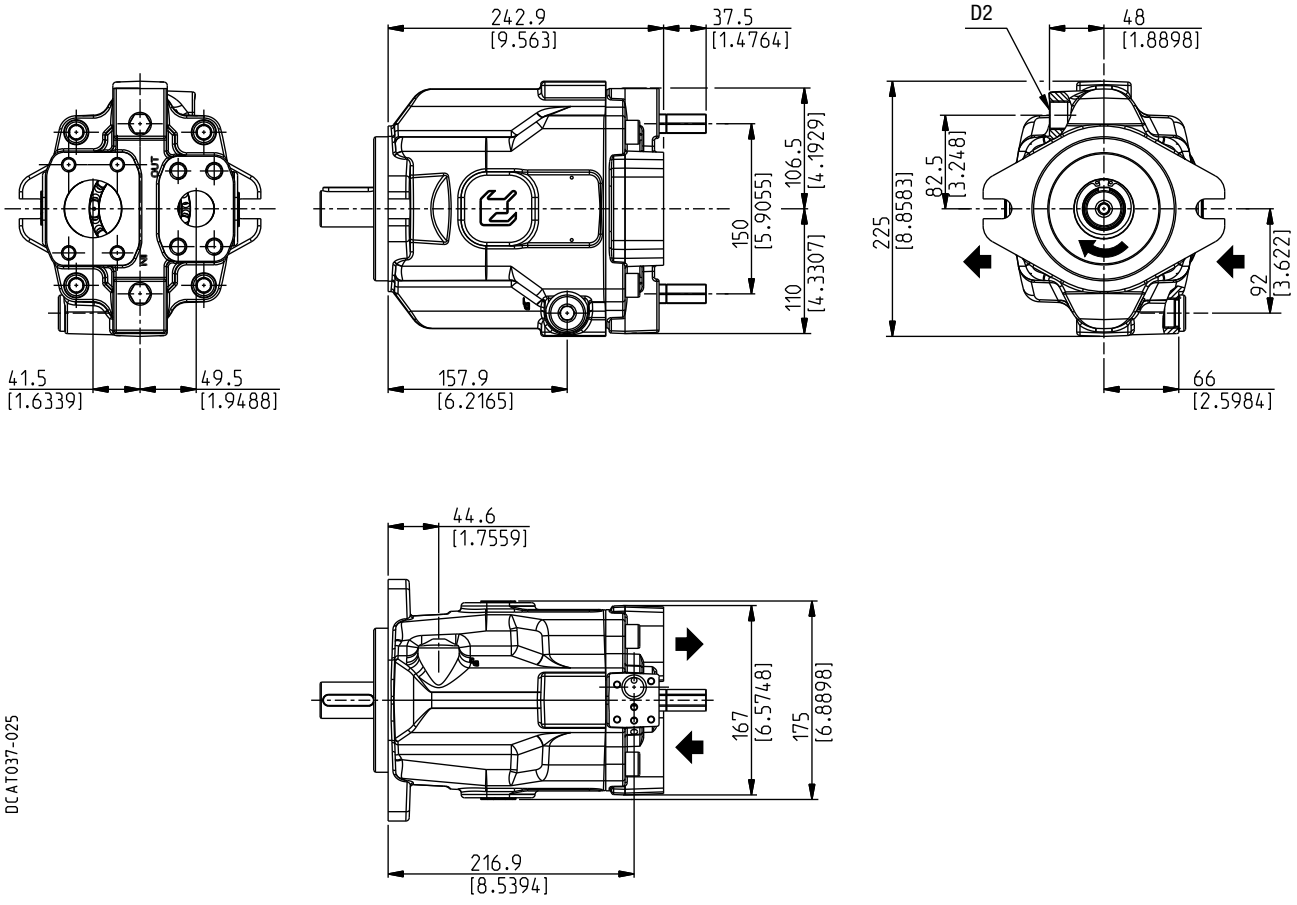


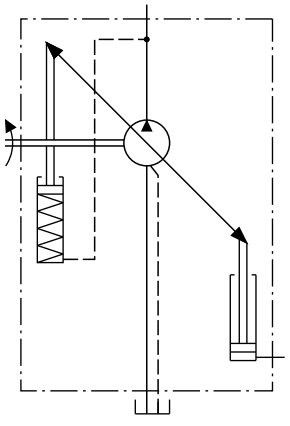


05/12.2022

LVP75-90 REAR PORTS - DIMENSIONS P

Drive shafts: see page 26
Mounting flanges: see page 30
Ports: see page 33 ÷ 35

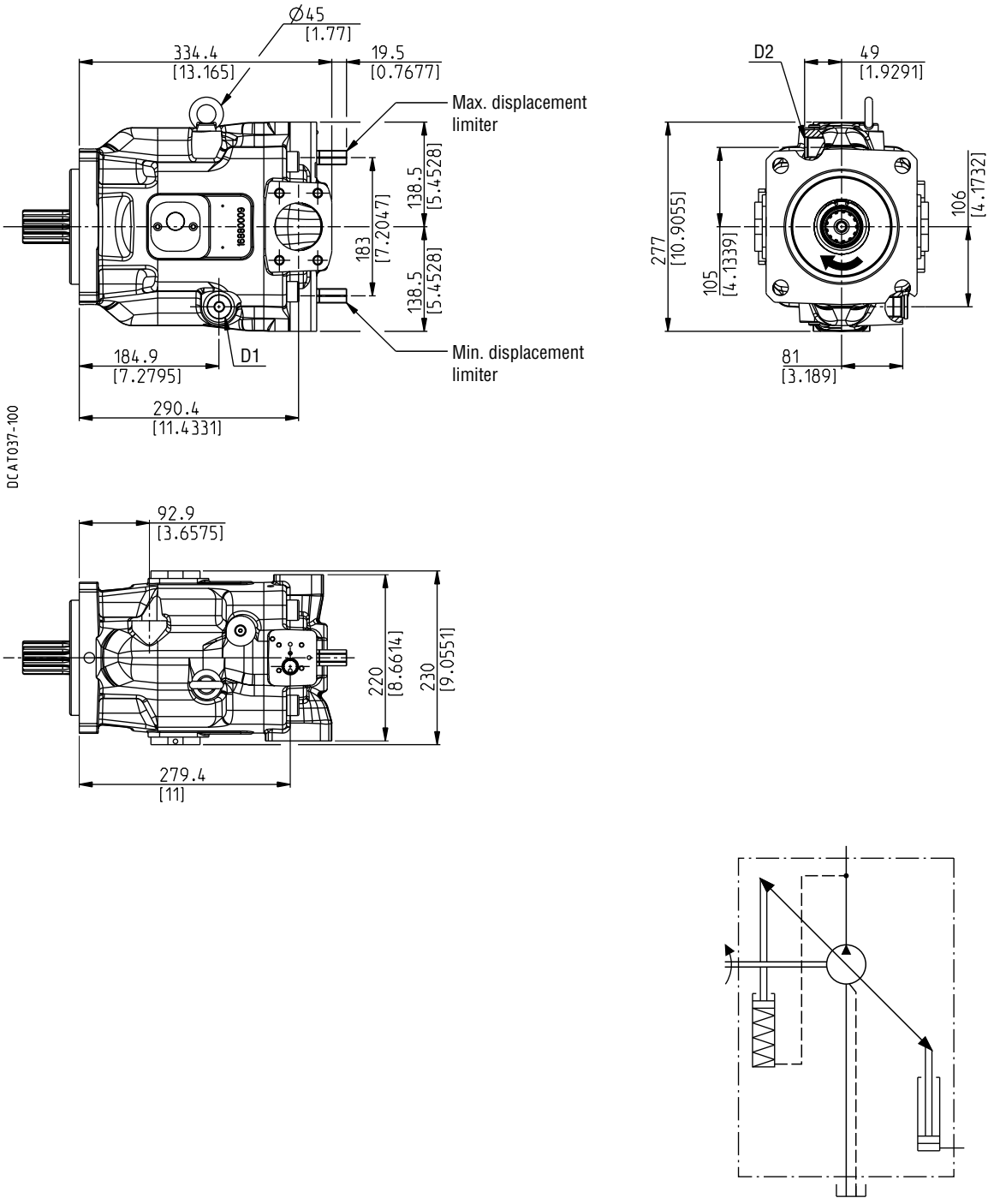




05/12.2022

LVP140-160 DIMENSIONS WITH SIDE PORTS L

Drive shafts: see page 27 ÷ 28
Mounting flanges: see page 31 ÷ 32
Ports: see page 33 ÷ 35

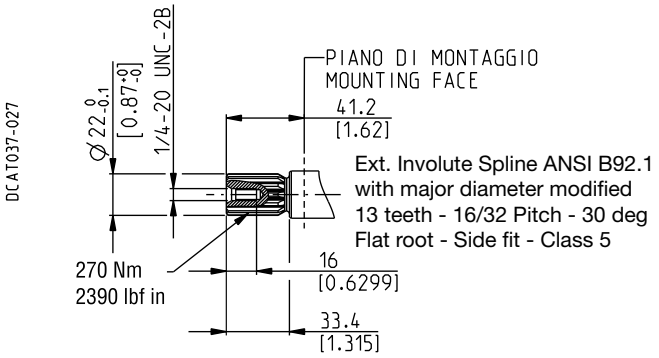


06/04.2026

LVP30-48 DRIVE SHAFTS

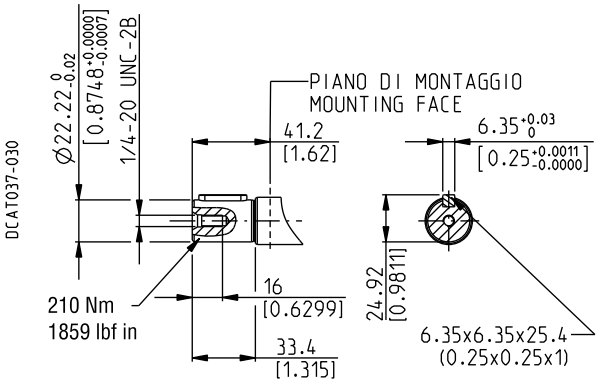
SAE “B” SPLINE 04

Mounting face refers to flange code **S5**



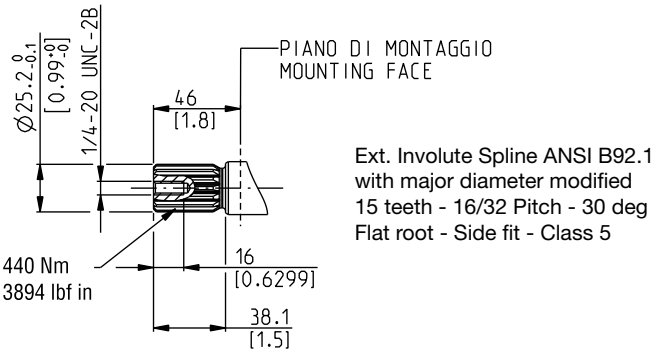
SAE “B” STRAIGHT 32

Mounting face refers to flange code **S5**



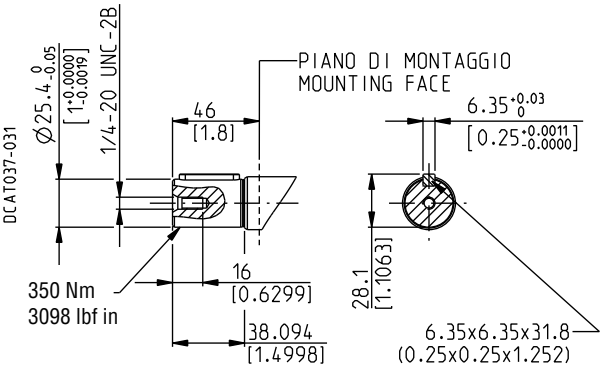
SAE “BB” SPLINE 05

Mounting face refers to flange code **S5**



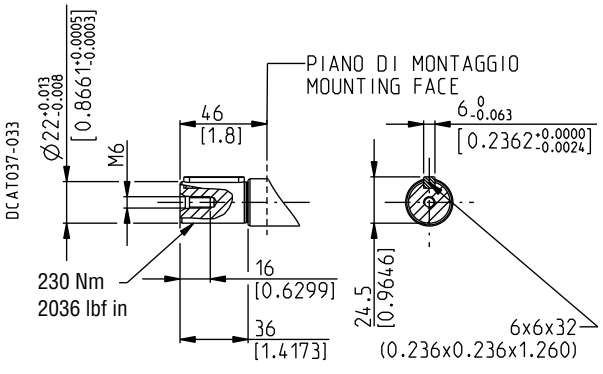
SAE “BB” STRAIGHT 33

Mounting face refers to flange code **S5**



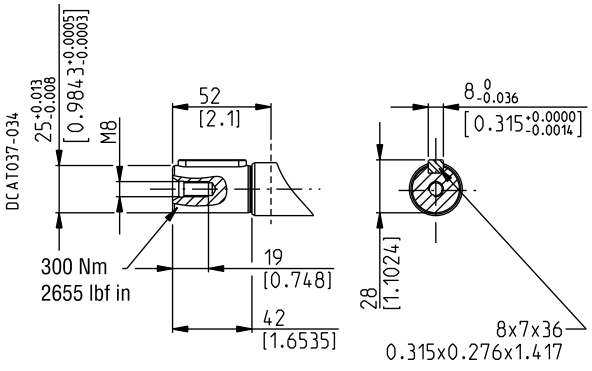
STRAIGHT Ø 22 68

Mounting face refers to flange code **Z1**



STRAIGHT Ø 25 69

Mounting face refers to flange code **Z1**



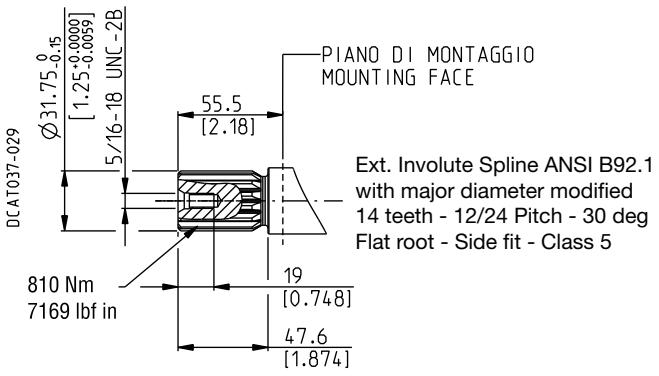
Please contact us for different drive shafts.

04/04.2013

LVP75-90 DRIVE SHAFTS

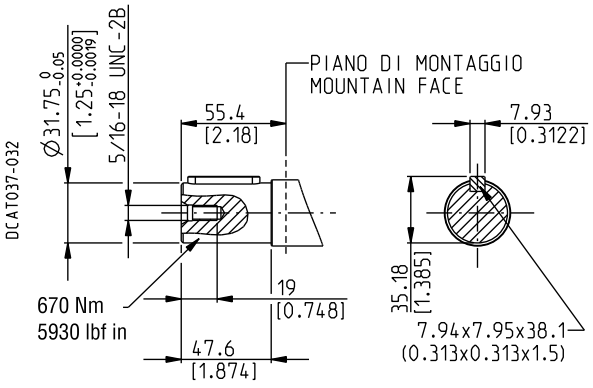
SAE "C" SPLINE 06

Mounting face refers to flange code **S7**



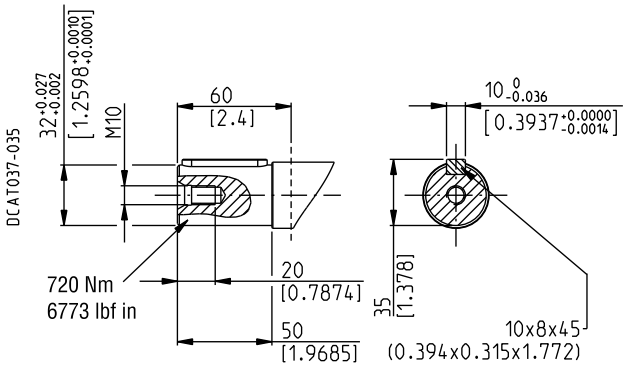
SAE "C" STRAIGHT 34

Mounting face refers to flange code **S7**



STRAIGHT Ø 32 70

Mounting face refers to flange code **Z2**

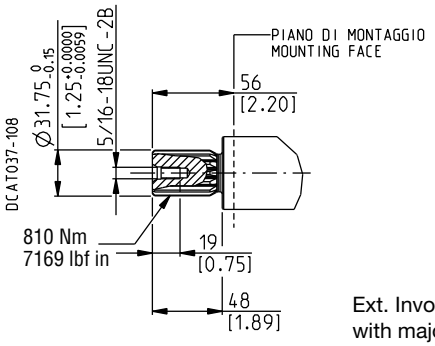


04/04.2013

LVP140-160 DRIVE SHAFTS

SAE "C" SPLINE 06

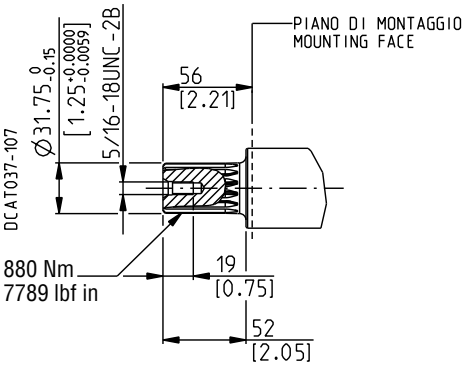
Mounting flange refer to flange code S7



Ext. Involute Spline ANSI B92.1
with major diameter modified
14 teeth - 12/24 Pitch - 30 deg
Flat root - Side fit
See table A - Class 6

SAE "C" SPLINE 6R

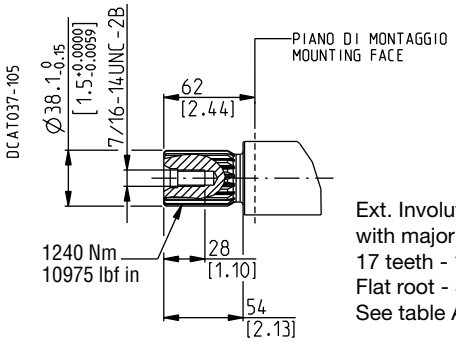
Mounting flange refer to flange code S7



Ext. Involute Spline ANSI B92.1
with major diameter modified
14 teeth - 12/24 Pitch - 30 deg
Flat root - Side fit
See table A - Class 6

SAE "CC" SPLINE HM

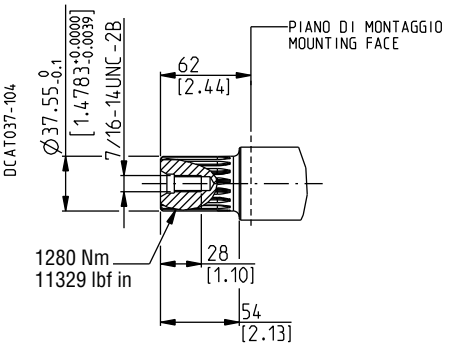
Mounting flange refer to flange code S7



Ext. Involute Spline ANSI B92.1
with major diameter modified
17 teeth - 12/24 Pitch - 30 deg
Flat root - Side fit
See table A - Class 6

SAE "CC" SPLINE HK

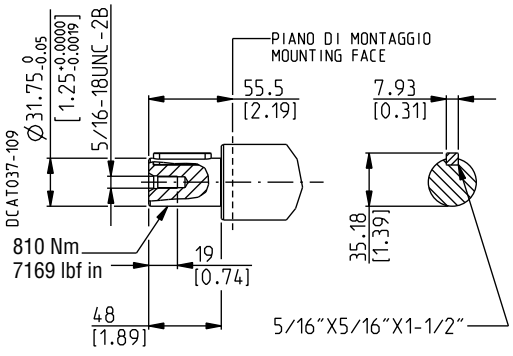
Mounting flange refer to flange code S7



Ext. Involute Spline ANSI B92.1
with major diameter modified
17 teeth - 12/24 Pitch - 30 deg
Flat root - Side fit
See table A - Class 6

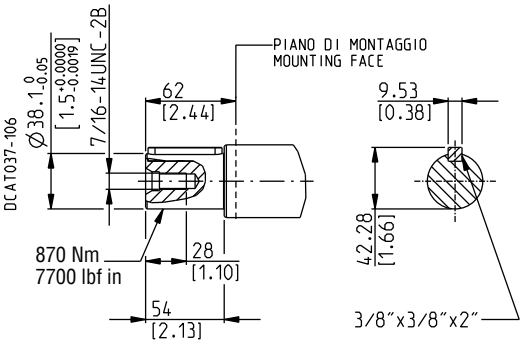
SAE "C" STRAIGHT 34

Mounting flange refer to flange code S7



SAE "CC" STRAIGHT LO

Mounting flange refer to flange code S7



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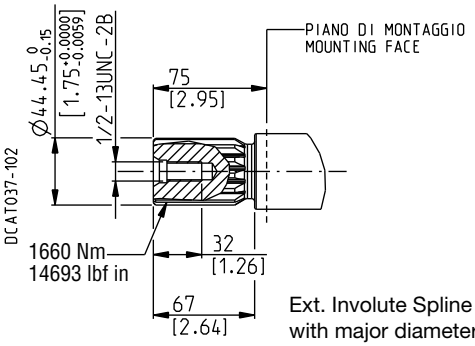
LVP140-160 DRIVE SHAFTS

SAE "D" SPLINE HJ

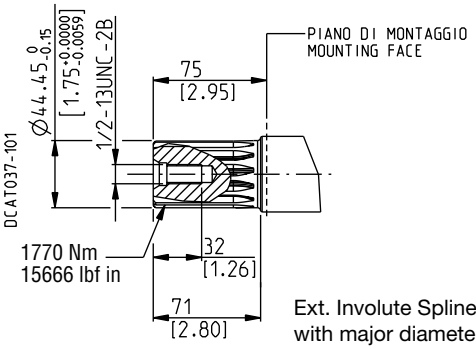
Mounting flange refer to flange code Z8



Ext. Involute Spline ANSI B92.1
with major diameter modified
13 teeth - 8/16 Pitch - 30 deg
Flat root - Side fit
See table A - Class 6

SAE "D" SPLINE HI

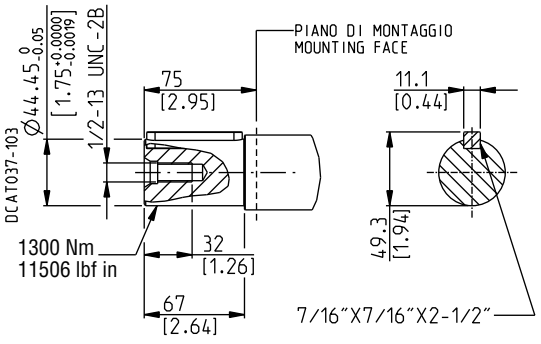
Mounting flange refer to flange code Z8



Ext. Involute Spline ANSI B92.1
with major diameter modified
13 teeth - 8/16 Pitch - 30 deg
Flat root - Side fit
See table A - Class 6

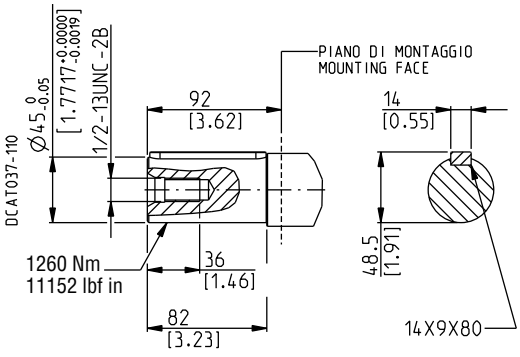
SAE "D" STRAIGHT LU

Mounting flange refer to flange code Z8



ISO STRAIGHT LJ

Mounting flange refer to flange code Y86

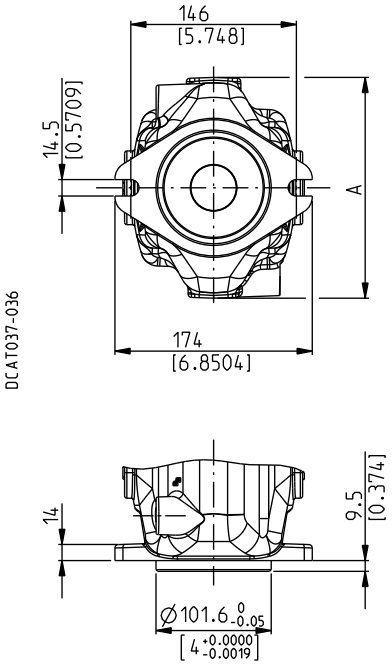


06/04.2026

LVP30-48 MOUNTING FLANGES AND TABLE OF COMPATIBILITY

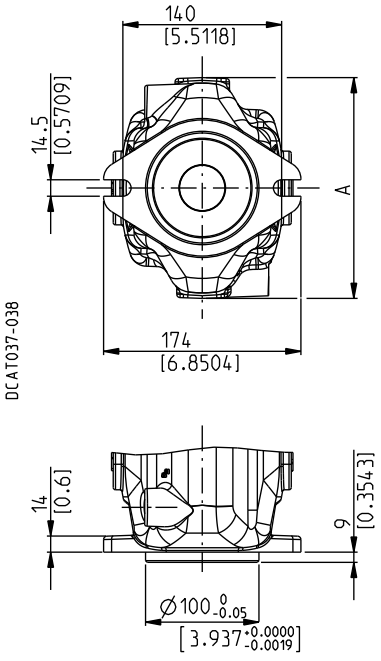
SAE “B” 2 HOLES S5

Conforms to SAE J744



ISO Ø 100 Z1

Conforms to ISO 3019/2



Pump type	A mm (in)	DRIVE SHAFTS See page 25 04	32	05	33
LVP30	178,7 (7.03)	X	X		X
LVP48	194,7 (7.66)	X		X	X

X Available combination

Pump type	A mm (in)	DRIVE SHAFTS See page 25 68	69
LVP30	178,7 (7.03)	X	
LVP48	194,7 (7.66)		X

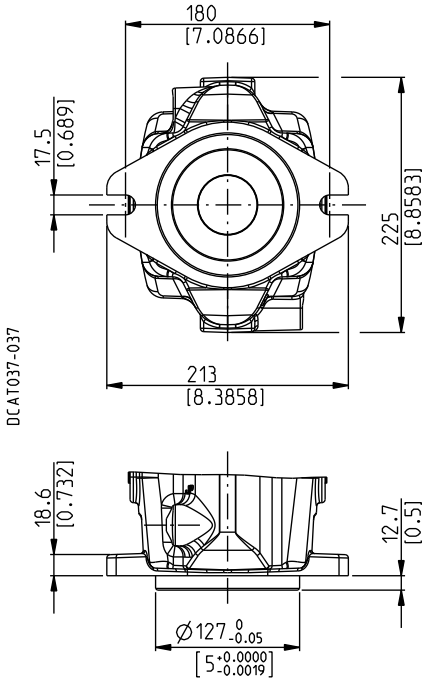
X Available combination

04/04.2013

LVP75-90 MOUNTING FLANGES AND TABLE OF COMPATIBILITY

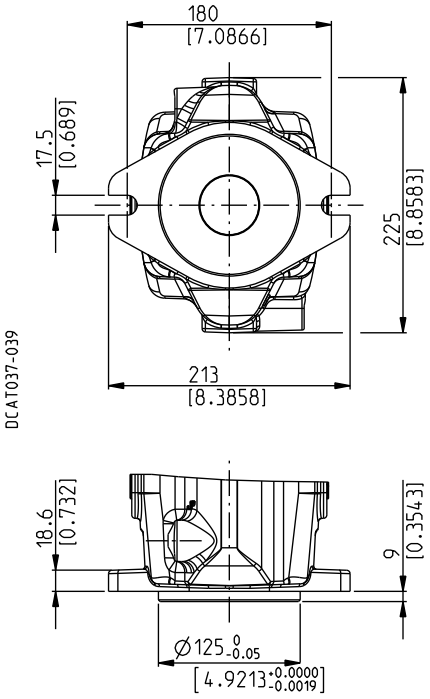
SAE "C" 2 HOLES S7

Conforms to SAE J744



ISO Ø 125 Z2

Conforms to ISO 3019/2



Pump type	DRIVE SHAFTS See page 26 06	34
LVP75	X	X
LVP90	X	X

X Available combination

Pump type	DRIVE SHAFTS See page 26 70
LVP75	X
LVP90	X

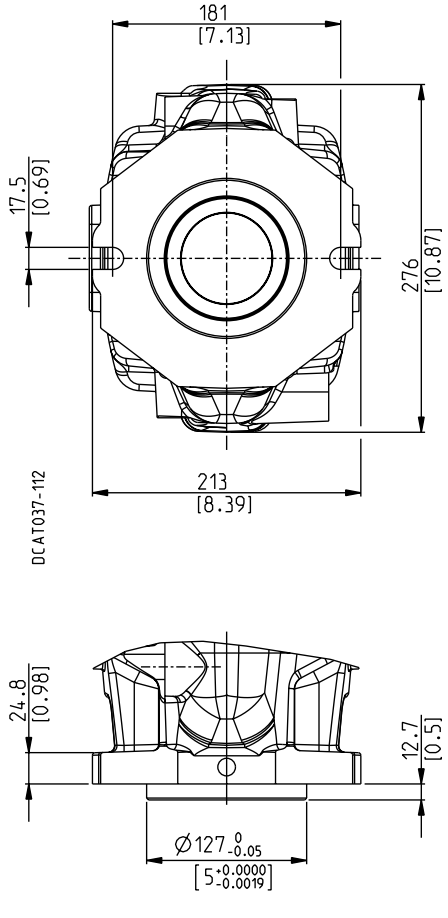
X Available combination

04/04.2013

LVP140-160 MOUNTING FLANGES AND TABLE OF COMPATIBILITY

SAE "C" 2 HOLES S7

Conforms to SAE J744



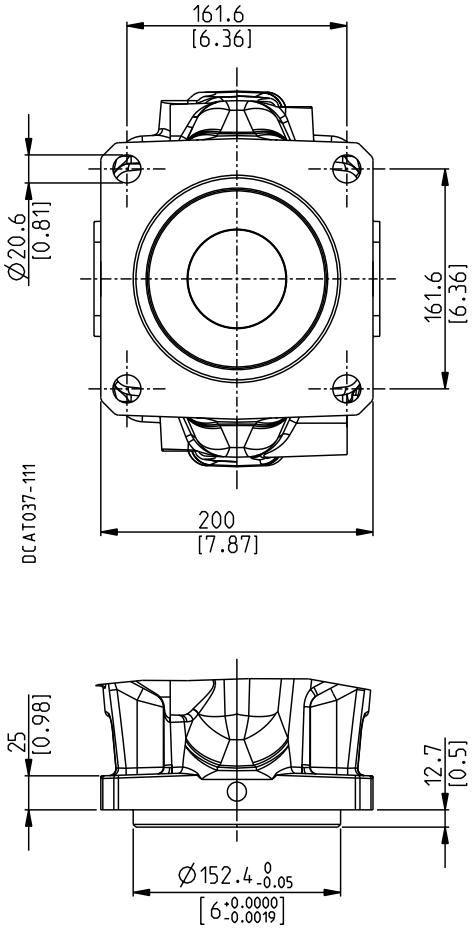
Pump type	06	6R	HM	HK	34	LO	HJ	HI	LU
LVP140 / LVP160	X	X	X	X	X	X	X	X	X

DRIVE SHAFTS
See page 27 ÷ 28

X Available combination

SAE "D" 4 HOLES Z8

Conforms to SAE J744



Pump type	06	6R	HM	HK	34	LO	HJ	HI	LU
LVP140 / LVP160	X	X	X	X	X	X	X	X	X

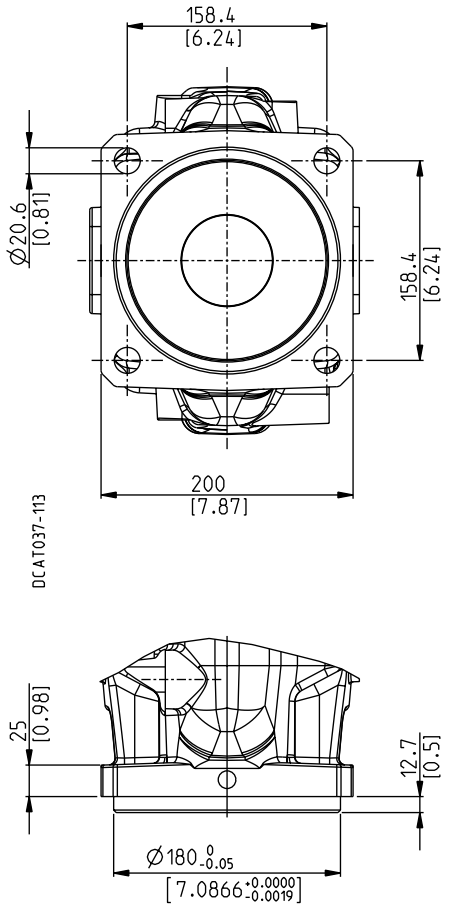
DRIVE SHAFTS
See page 27 ÷ 28

X Available combination

LVP140-160 MOUNTING FLANGES AND TABLE OF COMPATIBILITY

ISO Ø 180	Y86

Conforms to ISO 3019/2



	DRIVE SHAFTS See page 28
Pump type	LJ
LVP140 LVP160	X

X Available combination

06/06.2026

PORTS SIZES

Replaces: 03/01.2007

Ports type	INLET / OUTLET PORTS				DRAIN PORT		LOAD SENSING PORT	
	Split SSM		Split SSS		Gas BSPP	SAE ODT (●)	Gas BSPP (●)	SAE ODT
	IN	OUT	IN	OUT	D1 - D2	D1 - D2	X	X
LVP30	MD	QB	SD	VB	GD	OB	GA	03
LVP48	ME	QC	SE	VC	GD	OC	GA	03
LVP75	MF	QD	SF	VD	GE	OC	GA	03
LVP90	MF	QD	SF	VD	GE	OC	GA	03
LVP140 O	MG	QD	SG	VD	–	OD	GA	–
LVP160 O	MG	QD	SG	VD	–	OD	GA	–

(●) Available only with inlet and outlet ports type Split SSS.

Tightening torque for low pressure side port

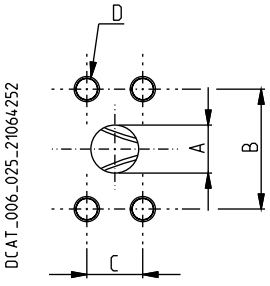
Tightening torque for high pressure side port

SAE FLANGED PORTS J518 — SSM

Metric thread ISO 60° conforms to ISO/R 262

INLET PORT - IN (SAE 3000 STANDARD PRESSURE - CODE 61)

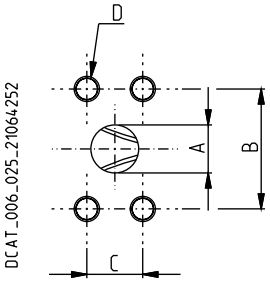
CODE	Nominal size	A mm (in)	B mm (in)	C mm (in)	D Thread Depth mm (in)	Nm (lbf in)	Nm (lbf in)
MD	1” 1/4	32 (1.26)	58,7 (2.31)	30,2 (1.19)	M 10 28 (1.10)	20 $^{+1}$ (177 ÷ 186)	–
ME	1” 1/2	38,1 (1.50)	69,8 (2.75)	35,7 (1.41)	M 12 26 (1.02)	30 $^{+2,5}$ (266 ÷ 288)	–
MF	2”	51 (2.01)	77,8 (3.06)	42,9 (1.69)	M 12 25 (0.98)	30 $^{+2,5}$ (266 ÷ 288)	–
MG O	2” 1/2	63 (2.48)	88,9 (3.5)	50,8 (2.0)	M 12 25 (0.98)	30$^{+2,5}$ (266 ÷ 288)	–



O 06/06.2026

OUTLET PORT - OUT (SAE 6000 HIGH PRESSURE - CODE 62)

CODE	Nominal size	A mm (in)	B mm (in)	C mm (in)	D Thread Depth mm (in)	Nm (lbf in)	Nm (lbf in)
QB	3/4”	19 (0.75)	50,8 (2.00)	23,8 (0.94)	M 10 24 (0.94)	–	45 $^{+2,5}$ (398 ÷ 420)
QC	1”	25,4 (1.00)	57,2 (2.25)	27,8 (1.09)	M 12 26 (1.02)	–	70 $^{+5}$ (620 ÷ 664)
QD	1” 1/4	32 (1.26)	66,7 (2.63)	31,8 (1.25)	M 14 23 (0.91)	–	60 $^{+5}$ (531 ÷ 575)



PORTS SIZES

Tightening torque for low pressure side port

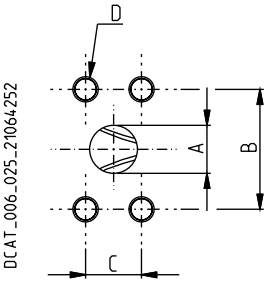
Tightening torque for high pressure side port

SAE FLANGED PORTS J518 SSS

American straight thread UNC-UNF 60° conforms to ANSI B 1.1

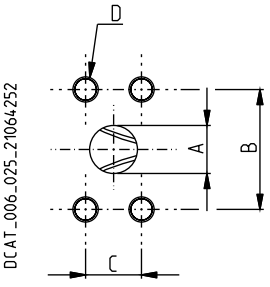
INLET PORT - IN (SAE 3000 STANDARD PRESSURE - CODE 61)

CODE	Nominal size	A mm (in)	B mm (in)	C mm (in)	D Thread Depth mm (in)	Nm (lbf in)	Nm (lbf in)
SD	1” 1/4	32 (1.26)	58,7 (2.31)	30,2 (1.19)	7/16-14 UNC-2B 28 (1.1024)	25 $^{+1}$ (221 ÷ 230)	–
SE	1” 1/2	38,1 (1.50)	69,8 (2.75)	35,7 (1.41)	1/2-13 UNC-2B 26 (1.0236)	30 $^{+2,5}$ (266 ÷ 288)	–
SF	2”	51 (2.01)	77,8 (3.06)	42,9 (1.69)	1/2-13 UNC-2B 25 (0.9843)	30 $^{+2,5}$ (266 ÷ 288)	–
SG O	2” 1/2	63 (2.48)	88,9 (3.5)	50,8 (2.0)	1/2-13 UNC-2B 25 (0.98)	30 $^{+2,5}$ (266 ÷ 288)	–



OUTLET PORT - OUT (SAE 6000 HIGH PRESSURE - CODE 62)

CODE	Nominal size	A mm (in)	B mm (in)	C mm (in)	D Thread Depth mm (in)	Nm (lbf in)	Nm (lbf in)
VB	3/4”	19 (0.75)	50,8 (2.00)	23,8 (0.94)	3/8-16 UNC-2B 24 (0.9449)	–	45 $^{+2,5}$ (398 ÷ 420)
VC	1”	25,4 (1.00)	57,2 (2.25)	27,8 (1.09)	7/16-14 UNC-2B 20 (0.7874)	–	65 $^{+5}$ (575 ÷ 620)
VD	1” 1/4	32 (1.26)	66,7 (2.63)	31,8 (1.25)	1/2-13 UNC-2B 23 (0.9055)	–	65 $^{+5}$ (575 ÷ 620)



Replaces: 04/04.2013

O 06/06.2026

PORTS SIZES

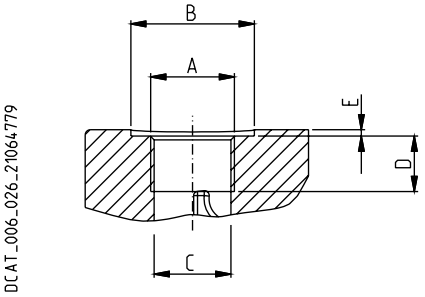
Tightening torque for low pressure side port

Tightening torque for high pressure side port

Replaces: 04/04.2013

GAS STRAIGHT THREAD PORTS — BSPP

British standard pipe parallel (55°) conforms to UNI - ISO 228

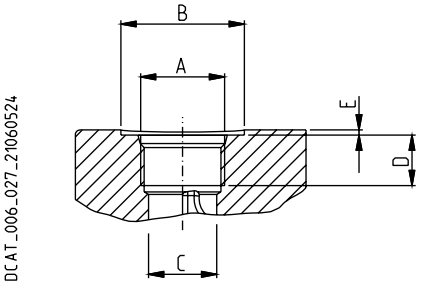


CODE	Nominal size	A	Ø B	Ø C	D	E		
		mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	Nm (lbf in)	Nm (lbf in)
GA (X)	1/8”	G 1/8	—	8,75 (0.34)	12 (0.47)	—	—	5 $^{+0,25}$ (44 ÷ 46)
GD (●)	1/2”	G 1/2	36 (1.42)	19 (0.75)	—	1 (0.04)	20 $^{+1}$ (177 ÷ 186)	—
GE (●)	3/4”	G 3/4	38 (1.50)	24,5 (0.97)	—	1 (0.04)	30$^{+2,5}$ (266 ÷ 288)	—

(X) = Load sensing port - (●) = Drain port

SAE STRAIGHT THREAD PORTS J514 — ODT

American straight thread UNC-UNF 60° conforms to ANSI B 1.1



O 06/06.2026

CODE	Nominal size	A	Ø B	Ø C	D	E		
		mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	Nm (lbf in)	Nm (lbf in)
03 (X)	1/4”	7/16” - 20 UNF - 2B	—	9,5 (0.37)	—	—	—	12 $^{+1}$ (106 ÷ 115)
0B (●)	1/2”	3/4” - 16 UNF - 2B	33 (1.30)	17 (0.67)	—	1 (0.04)	20 $^{+1}$ (177 ÷ 186)	—
0C (●)	5/8”	7/8” - 14 UNF - 2B	38 (1.50)	20,5 (0.81)	—	1 (0.04)	30 +2,5 (266 ÷ 288)	—
0D (●) O	3/4”	1 1/16” - 12 UNF - 2B	42 (1.65	24,8 (0.98)	—	0,5 (0.02)	40$^{+2,5}$ (354 ÷ 76)	—

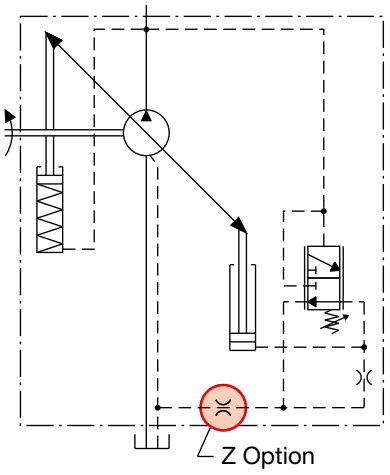
(X) = Load sensing port - (●) = Drain port

PRESSURE COMPENSATOR RP0

Regulates the pump displacement automatically to mantain the pressure below the fixed pre-adjusted limit.

Compensator type	Pump type	Pressure setting range	Standard setting
		O bar (psi)	bar (psi)
RP0	LVP30	80 ÷ 280 (1160 ÷ 4060)	280 (4060)
	LVP48	80 ÷ 280 (1160 ÷ 4060)	280 (4060)
	LVP75	80 ÷ 280 (1160 ÷ 4060)	280 (4060)
	LVP90	80 ÷ 250 (1160 ÷ 3625)	250 (3625)
	O LVP140	80 ÷ 350 (1160 ÷ 5075)	315 (4568)
	O LVP160	80 ÷ 315 (1160 ÷ 4568)	280 (4060)

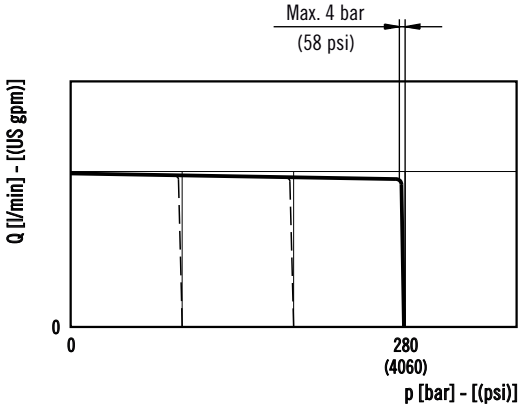
O



Replaces: 05/12.2022

OPERATING CURVES

Curves have been obtained at the speed of 1500 min^{-1} and oil temperature 50 °C (122 °F).



REMOTE CONTROL

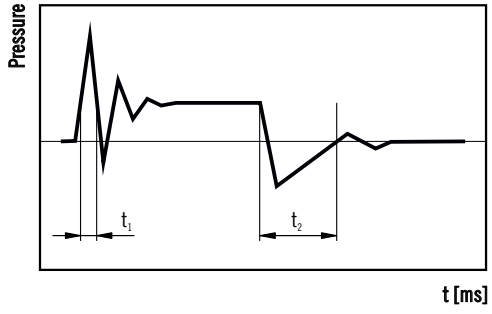
For remote pressure compensator LS3 see page 38.

Z OPTION (available on request)

Damping restrictor for critical applications.
In case of system instability or pressure oscillations, the additional damping restrictor slows down the pump control system, damping the regulation transients.
The pump recovery time increases.
The use of the damping restrictor must be evaluated and approved by Casappa technical sales department for the specific application.

RESPONSE AND RECOVERY TIME

According to SAE J745 (using outlet pressure).



Pump type	t_1 Response time [ms] (off stroke)	t_2 Recovery time [ms] (on stroke)
LVP30	36	140
LVP48	42	140
LVP75	44	160
LVP90	44	160
O LVP140	100	170
O LVP160	110	180

O 06/06.2026

NOTES

Angular sensor is available on request.
See page 44 ÷ 45 for more information.

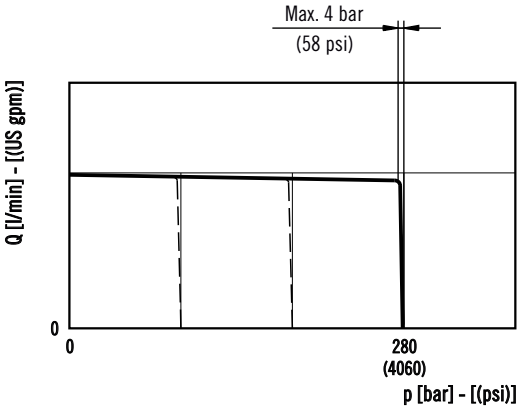
PRESSURE COMPENSATOR RP1

Regulates the pump displacement automatically to mantain the pressure below the fixed pre-adjusted limit.
Designed to work at high frequency ≥ 2 cycle/min and/or at pressure > 280 bar (4060 psi).

Replaces: 05/12.2022

OPERATING CURVES

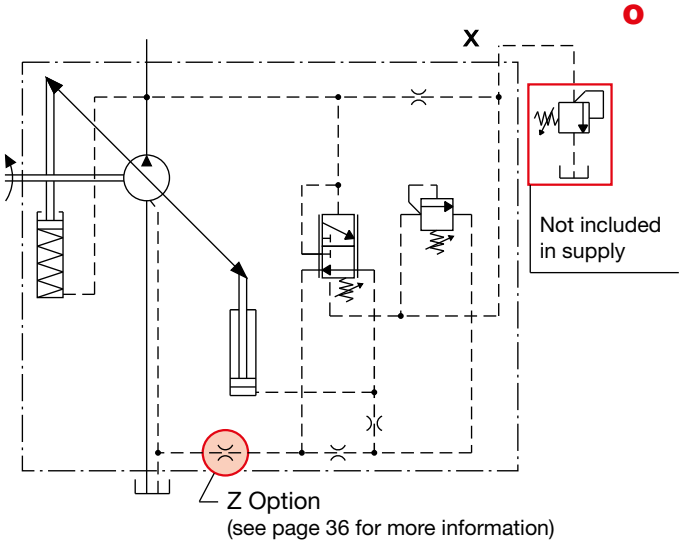
Curves have been obtained at the speed of 1500 min^{-1} and oil temperature 50 °C (122 °F).



RP1 (standard version)

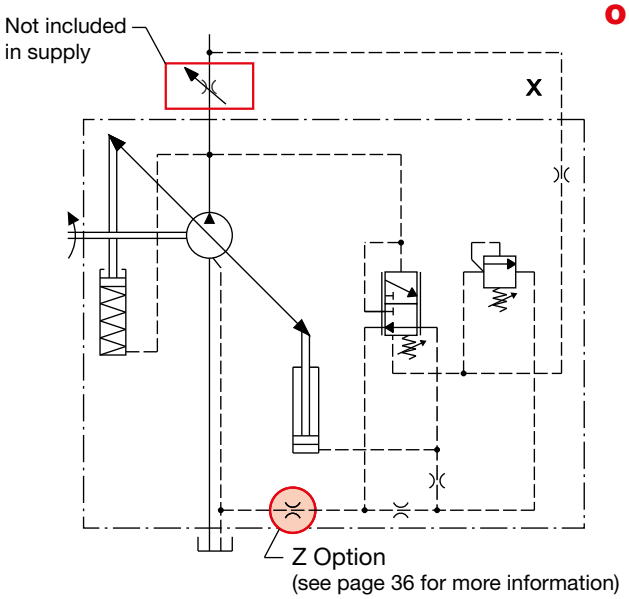
This version can work also with remote pressure control

o



RP1-LS2 (with flow control)

o



o 06/06.2026

NOTES

X: Load-sensing port. Dimensions at page 33 ÷ 35.
Angular sensor is available on request.
See page 44 ÷ 45 for more information.

FLOW COMPENSATOR (Load-sensing) LS

Regulates the pump displacement to maintain a constant (load independent) pressure drop across a flow metering device.
In the standard version the flow compensator is combined with pressure compensator.

Flow compensator type	Pressure compensator	Differential pressure setting range	Standard setting
		bar (psi)	bar (psi)
LS0 (■)	RP0	10 ÷ 40 (145 ÷ 580)	14 (203)
LS2 (◆)	RP0		
LS3 (●)	RP0		

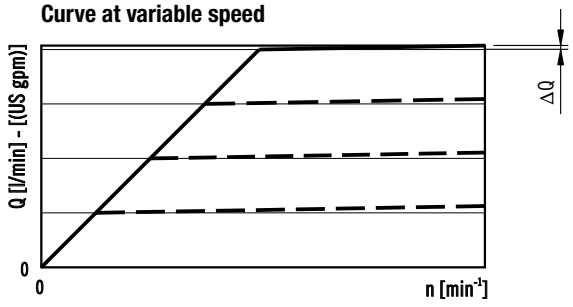
(■): Suggested when the directional control valve does not have the bleed function.
(◆): Y is plugged. Suggested when the directional control valve has the bleed function
(●): For remote pressure control.

Pilot flow ≈ 1,3 ÷ 1,5 l/min (0.34 ÷ 0.40 US gpm)

In standard setting conditions 14 bar (203 psi) the stand-by pressure is $15^{\pm 2}$ bar ($218^{\pm 29}$ psi).

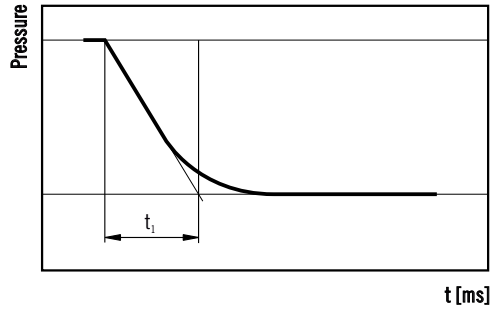
OPERATING CURVES

Curves have been obtained at the speed of 1500 min^{-1} and oil temperature 50 °C (122 °F).



RESPONSE TIME

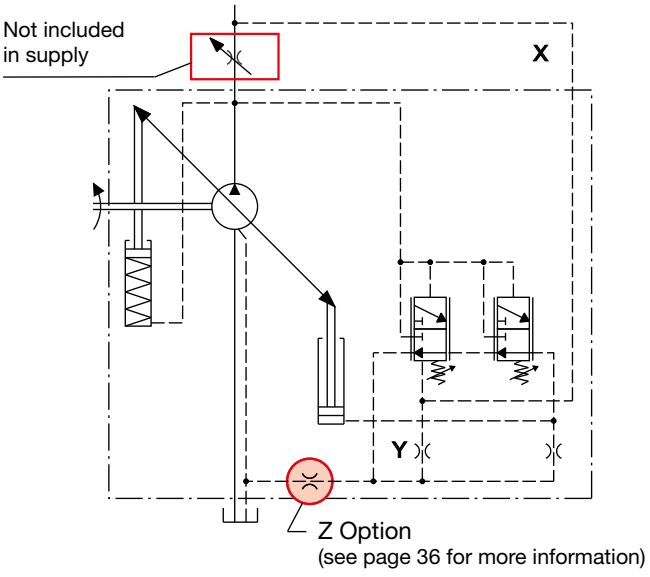
According to SAE J745 (using outlet pressure).



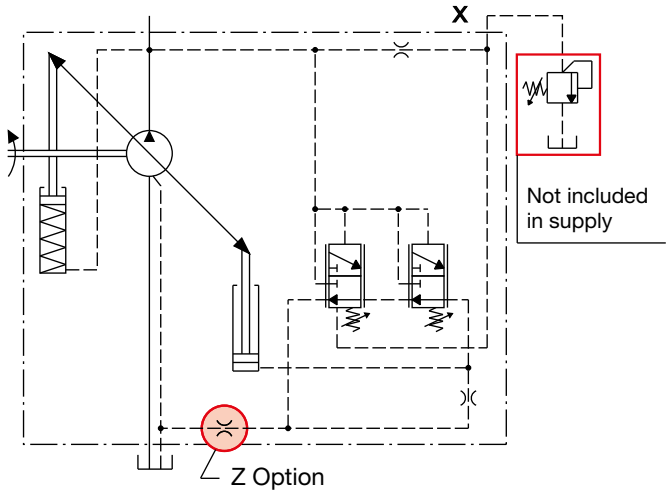
NOTES

X: Load-sensing port. Dimensions at page 33 ÷ 35.
Angular sensor is available on request.
See page 44 ÷ 45 for more information.

LS0 (Bleed open) - LS2 (Bleed closed)



LS3 - Remote pressure compensator



	ΔQ max	t_1 (●)
Pump type	l/min (US gpm)	Response time [ms] (off stroke)
LVP30	0,9 (0.24)	115
LVP48	1,7 (0.45)	117
LVP75	2,5 (0.66)	120
LVP90	2,5 (0.66)	120
O LVP140	3 (0.79)	150
O LVP160	3 (0.79)	160

Replaces: 05/12.2022
O 06/06.2026

TORQUE LIMITER RN

Replaces: 04/04.2013

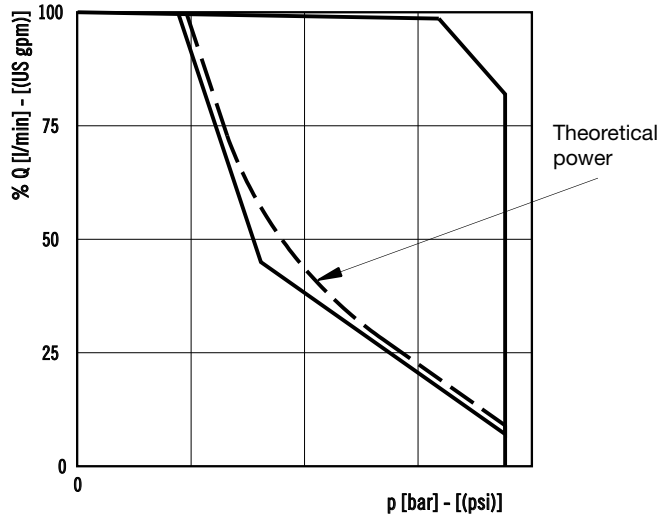
Regulates the pump displacement according to the system pressure, to maintain the pre-adjusted torque value and protect the prime mover from overload. To have the best torque limiter regulation, the pre-adjusted absorbed torque has to be higher than the value shown in the following table.

Pump type	Min. torque	Min. power (●)
	Nm (lbf in)	kW (HP)
LVP30	43 (381)	6,7 (9.0)
LVP48	68 (602)	10,7 (14.3)
LVP75	113 (1000)	17,8 (23.9)
LVP90	132 (1168)	20,7 (27.7)
O LVP140	200 (1770)	31,4 (42.1)
O LVP160	200 (1770)	31,4 (42.1)

(●) @ 1500 min^{-1}

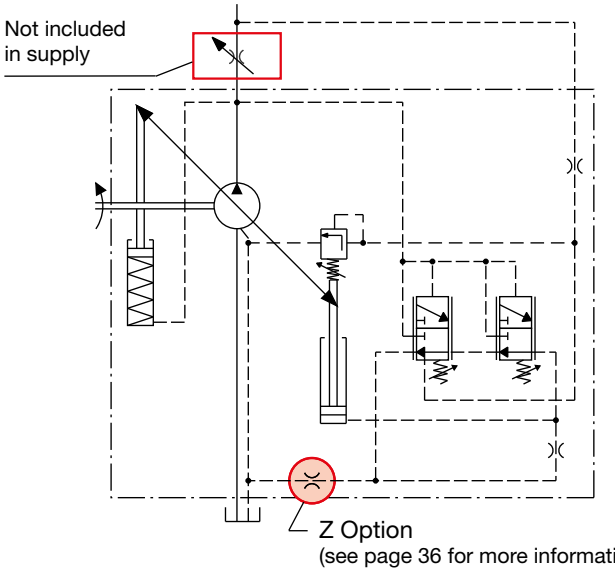
For lower torque setting values, the regulator limits the maxi mum working pressure to a value lower than the standard set ting for the pressure regulator 280 bar (4060 psi).
When ordering the torque limiter please specify the requested value of torque [eg. 70 Nm (620 lbf in)] or the requested po wer and speed [eg. 10 kW (13.4 HP) at 1500 min^{-1}].

OPERATING CURVES



RN0 - Standard

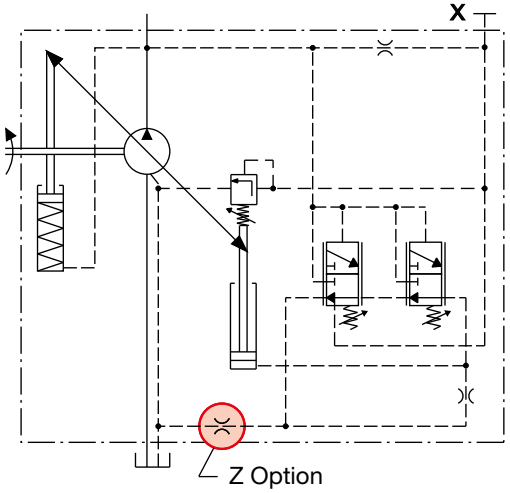
Torque limitation for closed center valve.



(see page 36 for more information)

RN1 - Internal pilot

Torque limitation for open center valve.



(see page 36 for more information)

O 06/06.2026

NOTES

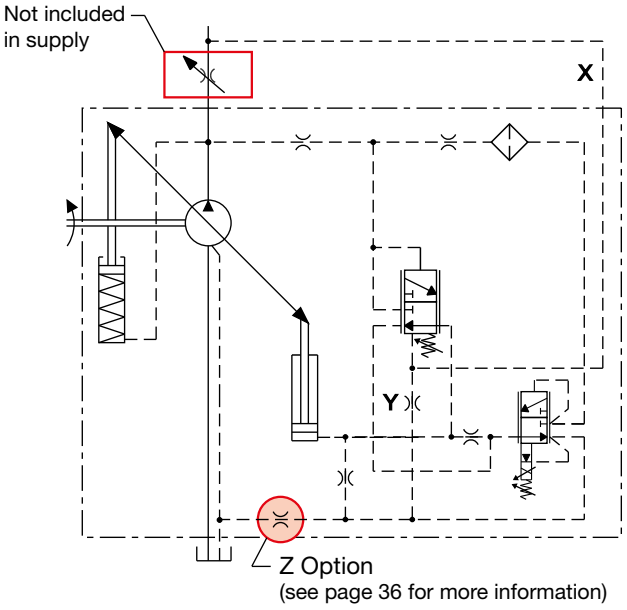
X: Load-sensing port. Dimensions at page 33 ÷ 35.
Please contact us for more information.

PRESSURE ELECTRONIC COMPENSATOR PEC

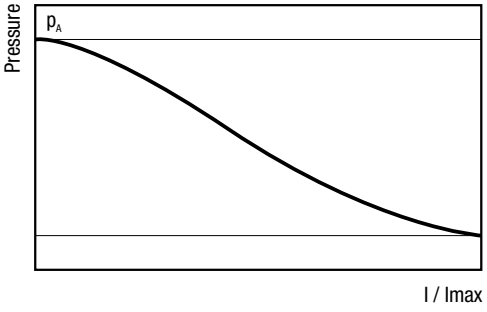
Regulates the pump displacement automatically to mantain the pressure below the variable limit set through a command current signal.

PEC-LS0 (Bleed open) / **PEC-LS2** (Bleed closed)

For LS2 configuration Y is plugged.



OPERATING CURVES



VALVE FEATURES

Valve code	Arrangement	Voltage
1	Normally closed	12 V DC
2	Normally closed	24 V DC

06/06.2026

NOTES

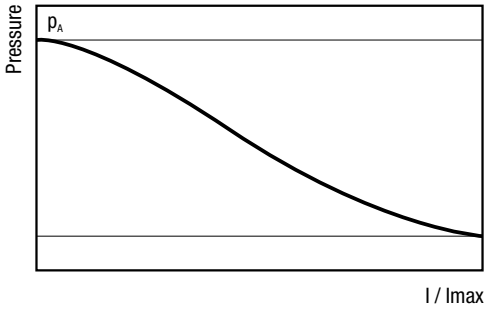
X: Load-sensing port. Dimensions at page 33 ÷ 35.
Connectors availabitliy at page 46.
Please contact us for more information.

PRESSURE ELECTRONIC COMPENSATOR PLUS ANGULAR SENSOR PECA

Regulates the pump displacement automatically to mantain the pressure below the variable limit set through a command current signal. The swivel angular sensor converts the actual position of the swashplate into a voltage output signal that can be used for different purposes. This signal and the proportional relief valve allow to realise the following different control logics by means of an external control unit:

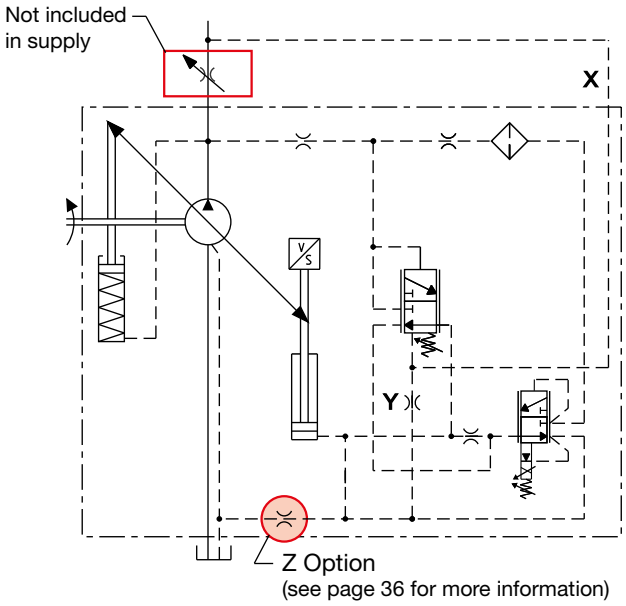
- Variable maximum pressure limiter
- Electronic flow compensator with variable setting (variable Load-Sensing)
- Electronic torque limiter with variable torque setting
- Power limiter
- Flow control
- Working e-modes

OPERATING CURVES



PECA-LS0 (Bleed open) / **PECA-LS2** (Bleed closed)

For LS2 configuration Y is plugged.



Valve code	Arrangement	Voltage
1	Normally closed	12 V DC
2	Normally closed	24 V DC

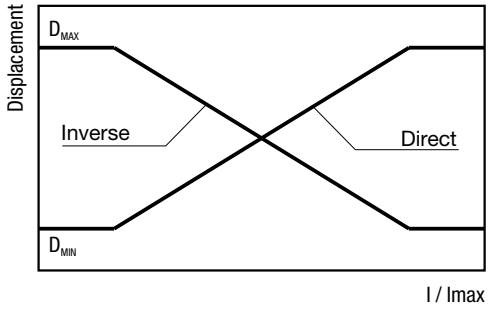
NOTES

X: Load-sensing port. Dimensions at page 33 ÷ 35.
Connectors availabitliy at page 46.
Please contact us for more information.

ELECTRO-PROPORTIONAL DISPLACEMENT COMPENSATOR DEC

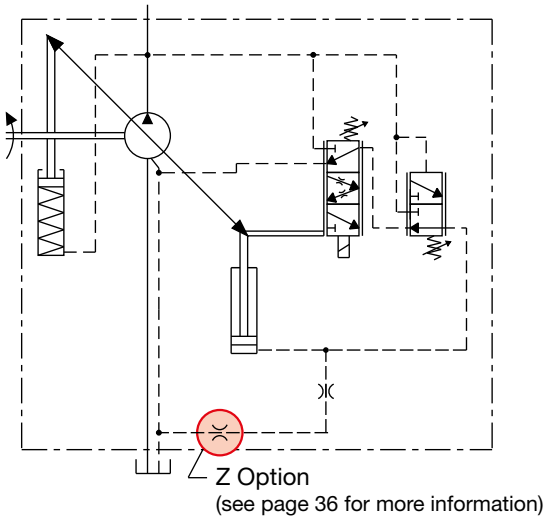
Regulates the pump displacement automatically to maintain it below the variable limit set throug a command current signal.
In the standard version, the electro-proportional displacement regulator is combined with pressure compensator.

OPERATING CURVES



DEC

Torque regulation for open center valve.

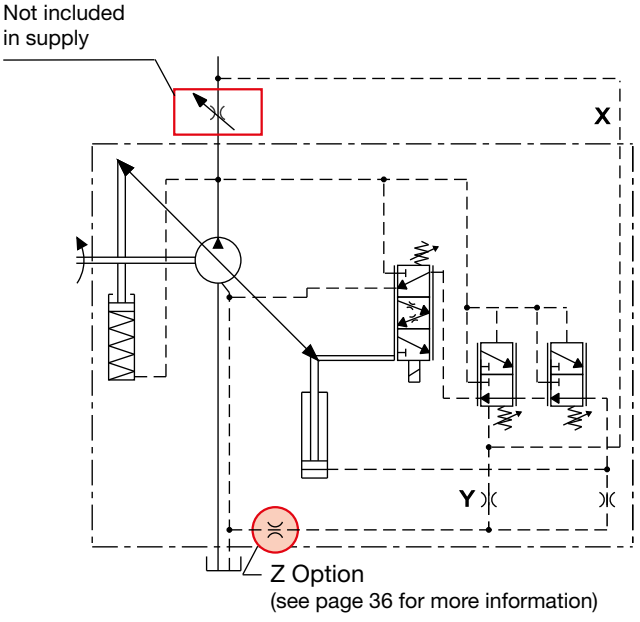


VALVE FEATURES

Valve code	Arrangement	Voltage
1	Inverse	12 V DC
2	Inverse	24 V DC
6	Direct	12 V DC
7	Direct	24 V DC

DEC-LS0 / DEC-LS2

Torque regulation for closed center valve.
For LS2 configuration Y is plugged.



NOTES

Available only for LVP140 and LVP160.
X: Load-sensing port. Dimensions at page 33 ÷ 35.
Angular sensor is available on request.
See page 44 ÷ 45 for more information.
Connectors availabitliy at page 46.
Please contact us for more information.

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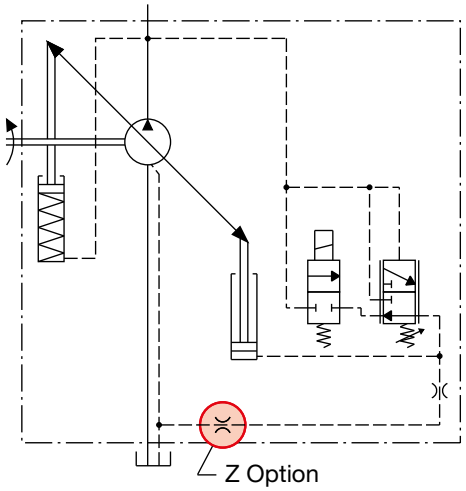
UNLOADING VALVE U..

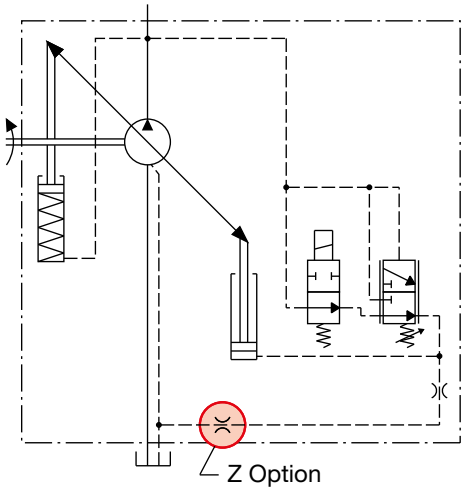
Replaces: 05/12.2022

NC (normally closed)



With the valve NC type (normally closed), energizing the solenoid valve the displacement is reset and the pump is unloaded.

NA (normally open)



With the valve NA type (normally open), energizing the solenoid valve the pump works at the maximum displacement.

VALVE FEATURES

Valve code	Arrangement	Voltage
U1	Normally closed	12 V DC
U2	Normally closed	24 V DC
U6	Normally open	12 V DC
U7	Normally open	24 V DC

O 06/06.2026

NOTES
Unloading valve can be supplied only with pressure compensator RP.
Angular sensor is available on request.
See page 44 ÷ 45 for more information.

SWIVEL ANGULAR SENSOR

The swivel angular sensor converts the actual position of the swashplate into a voltage output signal that can be used for different purposes.

Application: Non-contact swashplate position measurement (for example for electronic torque regulation in CS torque control).

Electrical characteristics

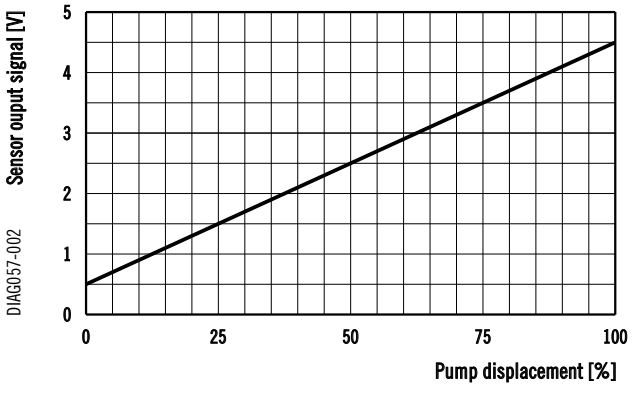
Power supply	8 ÷ 30 V DC
Operating temperature	-40 ÷ 125 °C (-40 ÷ 257 °F)
Cable lenght	280 mm (11.02 in)
Angular resolution	12 bit
Output signal	0,5 ÷ 4,5 V
Cable	4-core, 0,34 mm² (0.0005 in²) unshielded
Current consumption	< 40 mA
Short circuit immunity	Output against ground Output against Vbb
Reverse polarity protection	Power supply lines

EMC protection

Radiated emission	Reference standards: UNI EN 14982 • Frequency range: 30 MHz ÷ 1 GHz
Radiated immunity	Reference standards: ISO11452-2 • Frequency range: 200 MHz ÷ 2 GHz • Test level: 100 V/m
Load dump protection	Reference standards: ISO 7637-2 • Test level: 123 V
Electrostatic discharge	Reference standards: ISO 10605 • ±4, ±6, ±8 kV (Contact discharge) • ±4, ±6, ±8, ±15 kV (Indirect discharge) • ±4, ±6, ±8, ±15 kV (Air discharge)

Output signal

Output signal is proportional to swashplate angular position

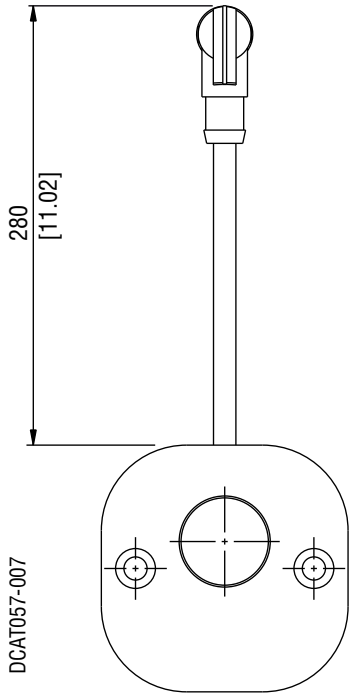


Environmental resistance

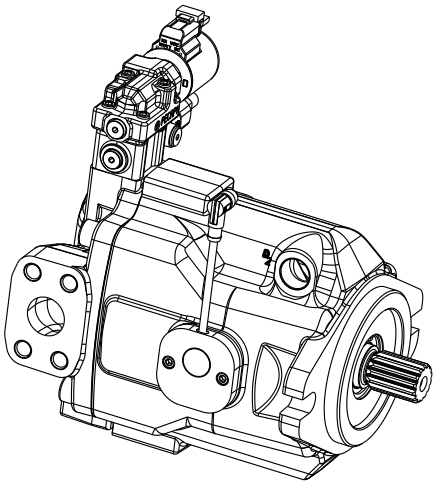
Random noise	Reference standards: EN 60068-2-64 • ASD= 0,1 g² (RMS 3,3 g) • f= 10 ÷ 1000 Hz • Duration per axis (xyz): 8 h
Mechanical shock	Reference standards: EN 60068-2-29 • Type of shock: Half sine • Acceleration amplitude: = 40 g • Shock duration: 6 ms • 100 positive shocks for each axis • 100 negative shocks for each axis
IP67 protection	Reference standards: EN 60529
IP6K9K protection	Reference standards: ISO 20653
Temperature cycle test	Reference standards: ISO 16750-4 • Temperature: -40 ÷ 125 °C (-40 ÷ 257 °F) • Number of cycles: 30
Temperature shock test	Reference standards: ISO 16750-4 • 60 min @ -40 °C (-40 °F) • 20 min @ 125 °C (257 °F) • Number of cycles: 20
Low temperature test	Reference standards: ISO 16750-4 • Temperature: -40 °C (-40 °F) • Test duration: 24 h
High temperature test	Reference standards: ISO 16750-4 • Temperature: 125 °C (257 °F) • Test duration: 48 h

05/12.2022

SWIVEL ANGULAR SENSOR

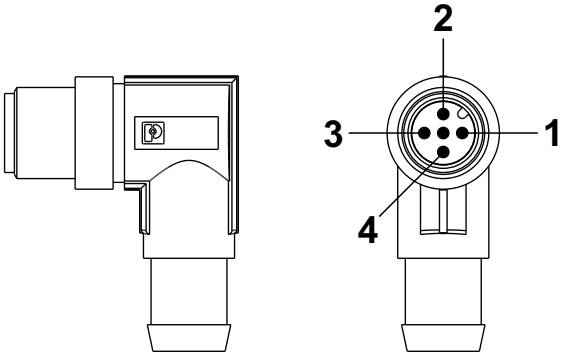


Mounting position



Connector type

5 pin M12x1 male plug 90° angled



Pin	Function
1	Vprog
2	Power supply / V DC
3	Ground
4	Signal

Mating Connector: 5 pin M12x1 female connector

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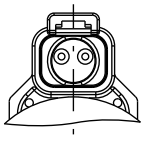
CONNECTORS

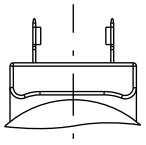
CONNECTOR: Deutsch DT04-2P **D**

Protection: IP69K with mating connector mounted



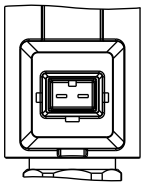
CONNECTOR: DIN 43650 **S**

Protection: IP65 with mating connector mounted



CONNECTOR: Junior Timer **JT**

Protection: IP67 with mating connector mounted



COIL FEATURES

REGULATOR: PEC - PECA

Connector type	**D** (Deutsch DT04-2P) - **S** (DIN 43650) - **JT** (Junior timer)	
Voltage	12 V DC	24 V DC
Resistance @ 20 °C (68 °F)	4,9 Ω	17,1 Ω
Dither frequency	150 Hz	150 Hz
Dither amplitude	200 mA peak to peak	100 mA peak to peak
Operating temperature	-30 ÷ 110 °C (-22 ÷ 230 °F)	-30 ÷ 110 °C (-22 ÷ 230 °F)

REGULATORS: DEC

Connector type	**D** (Deutsch DT04-2P) - **S** (DIN 43650) - **JT** (Junior timer)	
Voltage	12 V DC	24 V DC
Resistance @ 20 °C (68 °F)	5,5 ± 3% Ω	21,33 ± 5% Ω
Dither frequency	150 Hz	150 Hz
Dither amplitude	200 mA peak to peak	100 mA peak to peak
Operating temperature	-30 ÷ 110 °C (-22 ÷ 230 °F)	-30 ÷ 110 °C (-22 ÷ 230 °F)

06/06.2026

MULTIPLE PUMPS

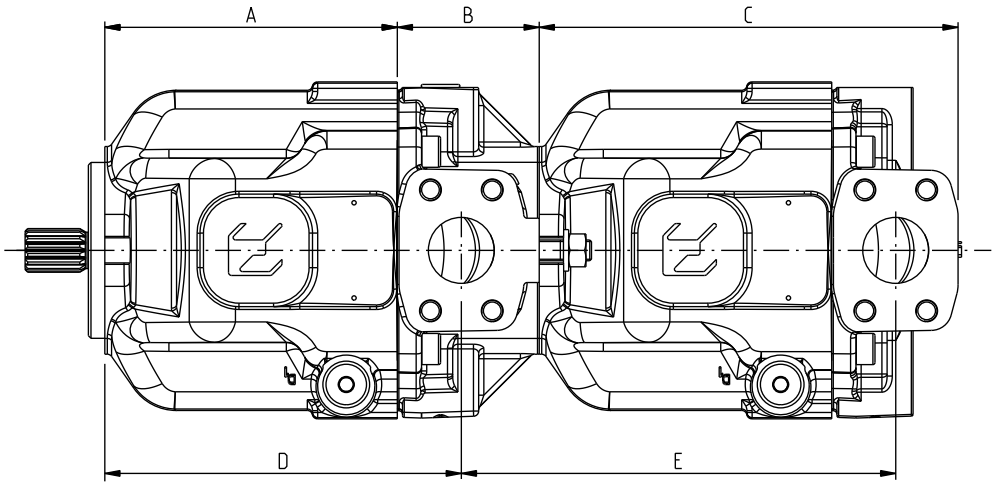
THROUGH DRIVE

LVP through drive axial piston pumps offer the flexibility to obtain different groups able to supply several hydraulic systems. The operating characteristics of each assembled pumps are the same as the corresponding single pumps according to the fol lowing conditions:
1) Do not exceed the maximum transmissible torque.
2) The maximum rotational speed is that of the lowest rated speed of the single unit incorporated.

M	Nm (lbf in)	Torque
V	cm^3/rev (in^3/rev)	Displacement
Δp	bar (psi)	Pressure
$\eta_{hm} = \eta_{hm}$ (V, Δp, n)		Hydro-mechanical efficiency

$$M = \frac{\Delta p\ (bar) \bullet V\ (cm^3/rev)}{62{,}83 \bullet \eta_{hm}} \quad [Nm]$$

Notes: The torque absorbed from the shaft of the first pump results from the sum of the torques due to all the single stages. The achieved value must not exceed the maximum torque limit given for the shaft of the first pump.



Pump type	A	B (●)			C	D	E
	mm (in)	mm (in)	Flanged for	Code	mm (in)	mm (in)	mm (in)
LVP30	145 (5.71)	77 (3.03)	SAE A	AS1	213 (8.39)	183 (7.20)	222 (8.74)
			SAE B (◆)	AS5			
LVP48	169 (6.65)	82 (3.23)	SAE A	AS1	242 (9.53)	206 (8.11)	251 (9.88)
			SAE B	AS5			
LVP75	192 (7.56)	99 (3.90)	SAE A	AS1	276 (10.87)	235 (9.25)	291 (11.46)
			SAE B	AS5			
		104 (4.09)	SAE C (◆)	AS7			296 (11.65)
LVP90	192 (7.56)	99 (3.90)	SAEA	AS1	276 (10.87)	235 (9.25)	291 (11.46)
			SAE B	AS5			
		104 (4.09)	SAE C (◆)	AS7			296 (11.65)

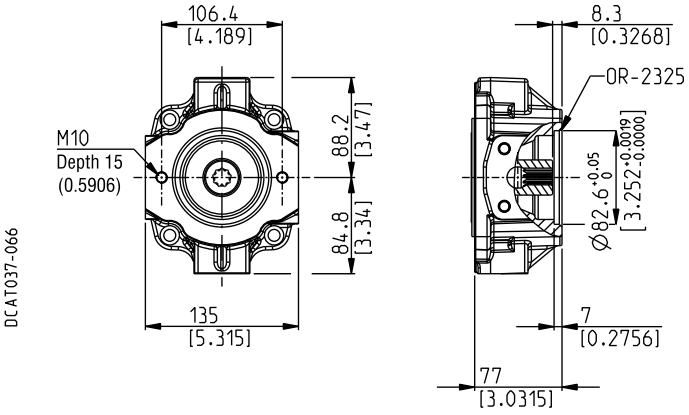
Overall dimensions: the same as the single pumps.
Ports dimensions at pages 33 ÷ 35. - Screws are supplied with the first pump.
(●) Cover kit are available to obtain single pumps starting from front sections of multiple pumps. Dimensions at page 57.
(◆): Available without displacement limiters.

05/12.2022

LVP30 INTERMEDIATE FLANGES

SAE “A” 2 HOLES AS1

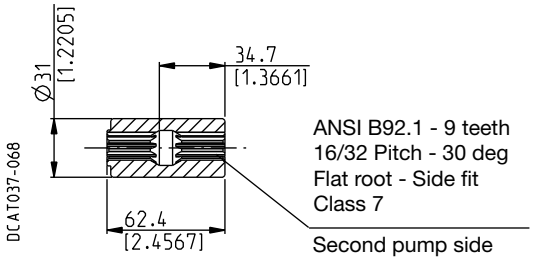
SAE J744



LVP30 COUPLINGS - DIMENSIONS

SAE “A” SPLINE 03

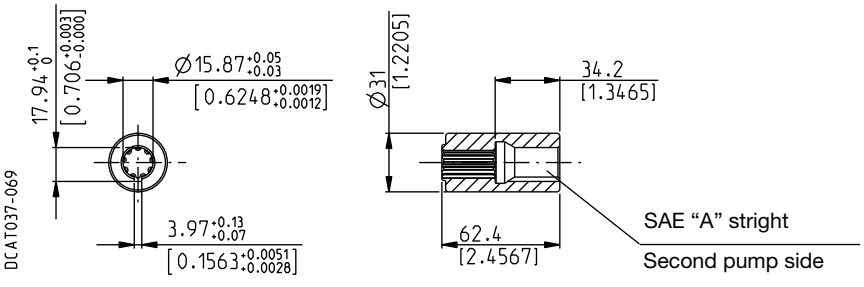
Available with flange code **AS1**



MAX 100 Nm (885 lbf in)

SAE “A” STRAIGHT 31

Available with flange code **AS1**



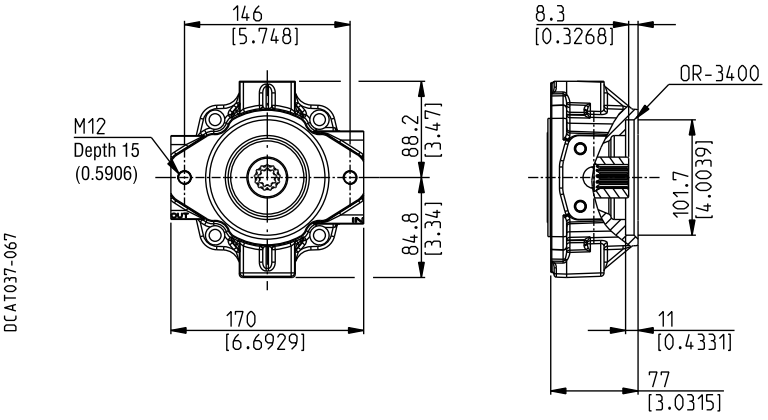
MAX 70 Nm (620 lbf in)

04/04.2013

LVP30 INTERMEDIATE FLANGES

SAE “B” 2 HOLES — AS5

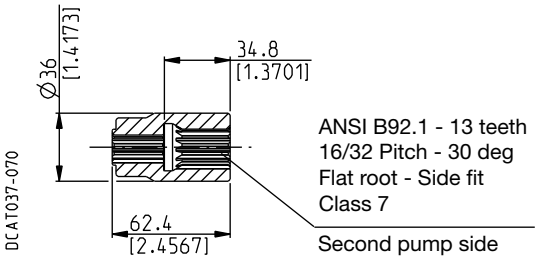
SAE J744



LVP30 COUPLINGS - DIMENSIONS

SAE “B” SPLINE — 04

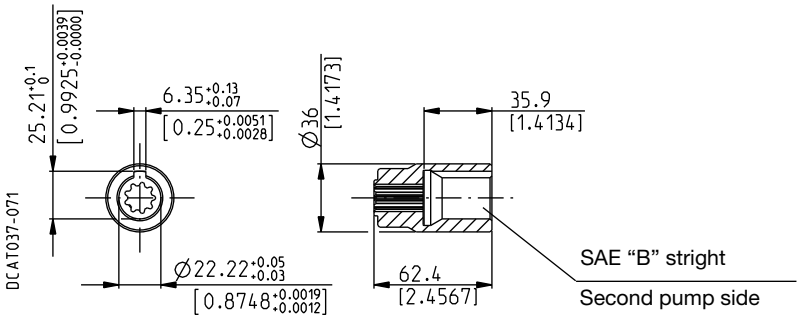
Available with flange code **AS5**



MAX 100 Nm (885 lbf in)

SAE “B” STRAIGHT — 32

Available with flange code **AS5**



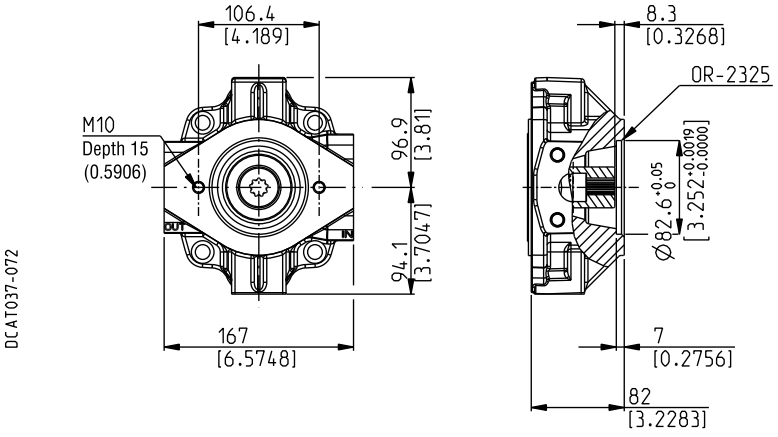
MAX 100 Nm (885 lbf in)

04/04.2013

LVP48 INTERMEDIATE FLANGES

SAE “A” 2 HOLES AS1

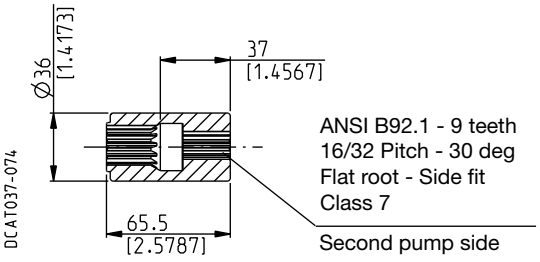
SAE J744



LVP48 COUPLINGS - DIMENSIONS

SAE “A” SPLINE 03

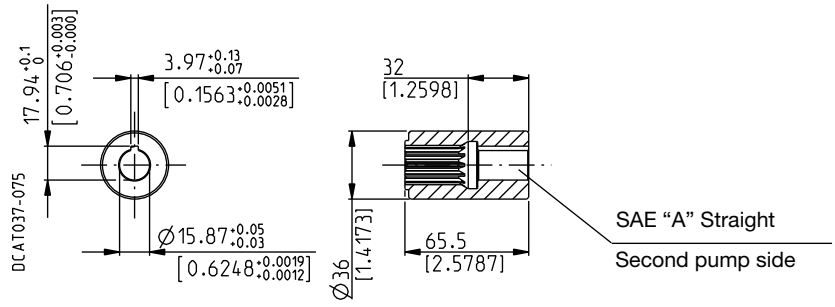
Available with flange code **AS1**



MAX 100 Nm (885 lbf in)

SAE “A” STRAIGHT 31

Available with flange code **AS1**



MAX 70 Nm (620 lbf in)

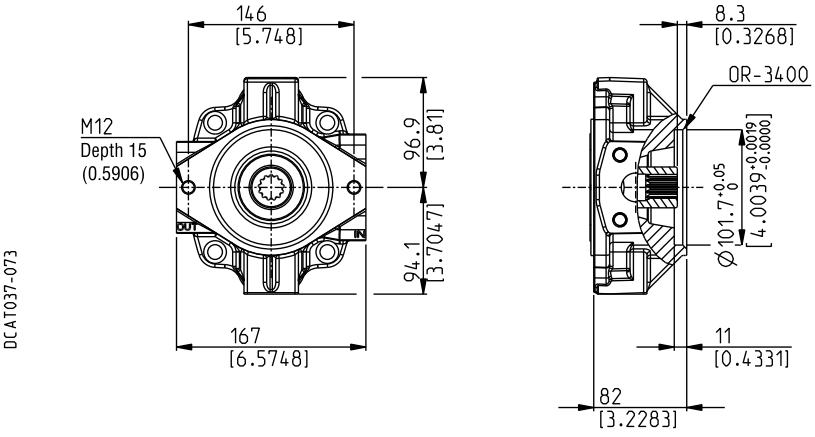
04/04.2013

LVP48 INTERMEDIATE FLANGES

SAE “B” 2 HOLES — AS5

SAE J744

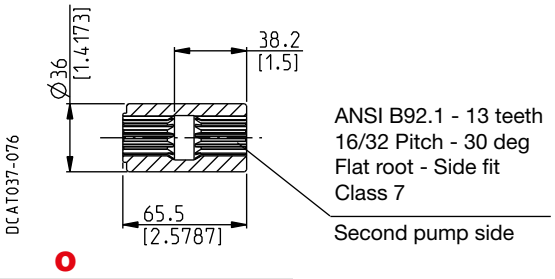
Replaces: 04/04.2013



LVP48 COUPLINGS - DIMENSIONS

SAE “B” SPLINE — 04

Available with flange code **AS5**

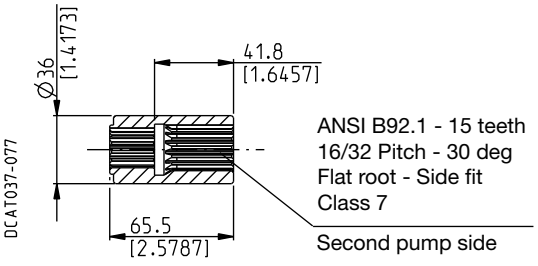


O

MAX 250 Nm (2213 lbf in)

SAE “BB” SPLINE — 05

Available with flange code **AS5**

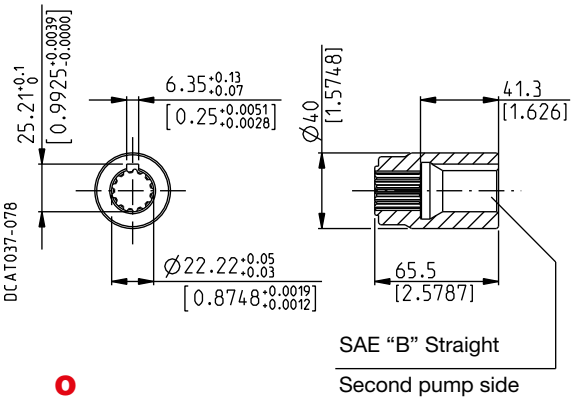


MAX 250 Nm (2213 lbf in)

SAE “B” STRAIGHT — 32

Available with flange code **AS5**

O 06/06.2026

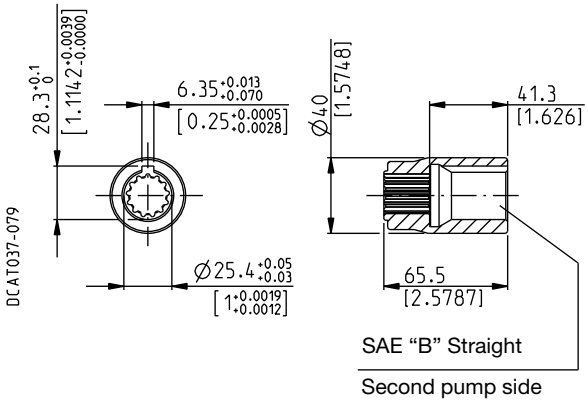


O

MAX 200 Nm (1770 lbf in)

SAE “BB” STRAIGHT — 33

Available with flange code **AS5**

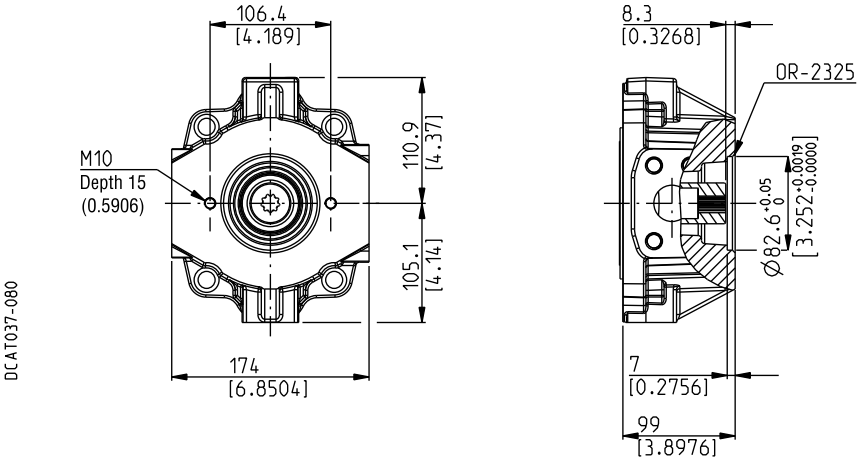


MAX 250 Nm (2213 lbf in)

LVP75-90 INTERMEDIATE FLANGES

SAE “A” 2 HOLES — AS1

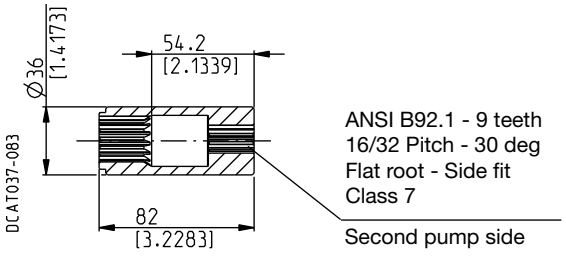
SAE J744



LVP75-90 COUPLINGS - DIMENSIONS

SAE “A” SPLINE — 03

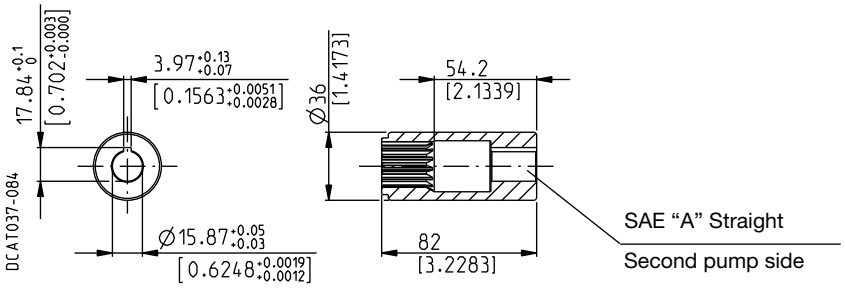
Available with flange code **AS1**



MAX 100 Nm (885 lbf in)

SAE “A” STRAIGHT — 31

Available with flange code **AS1**



MAX 70 Nm (620 lbf in)

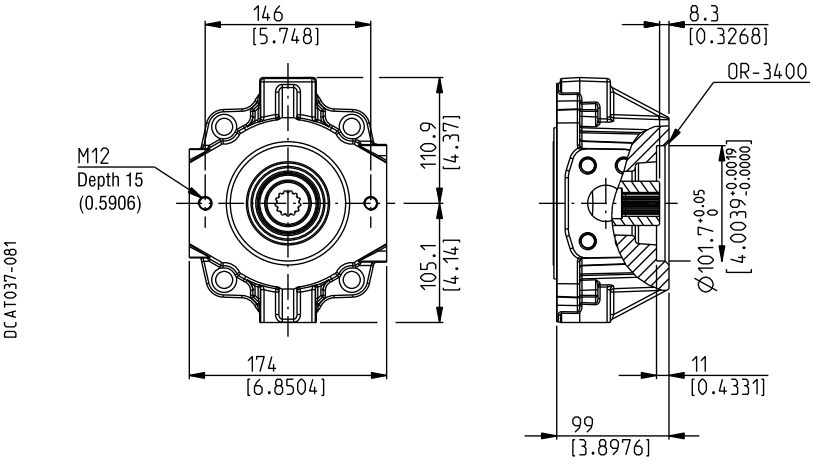
04/04.2013

LVP75-90 INTERMEDIATE FLANGES

SAE “B” 2 HOLES AS5

SAE J744

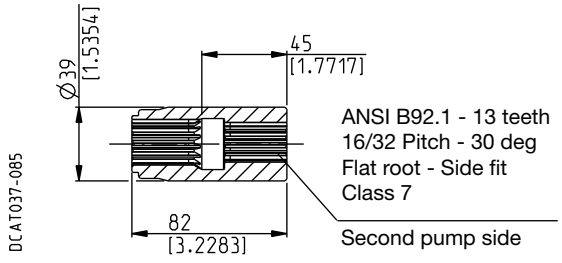
Replaces: 04/04.2013



LVP75-90 COUPLINGS - DIMENSIONS

SAE “B” SPLINE 04

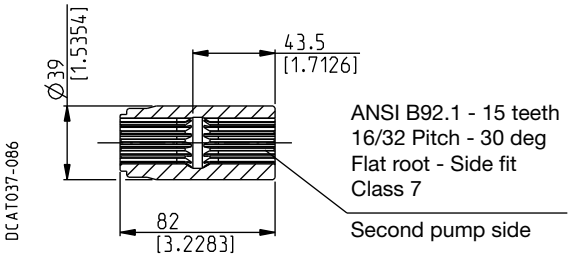
Available with flange code **AS5**



MAX 250 Nm (2213 lbf in)

SAE “BB” SPLINE 05

Available with flange code **AS5**

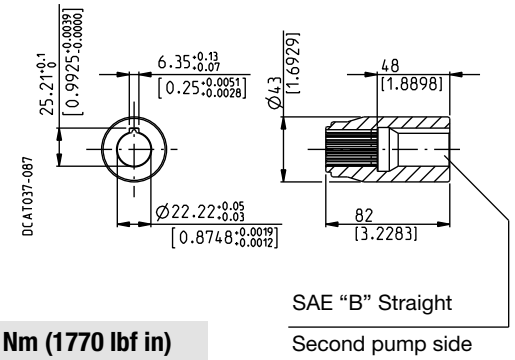


MAX 430 Nm (3806 lbf in)

SAE “B” STRAIGHT 32

Available with flange code **AS5**

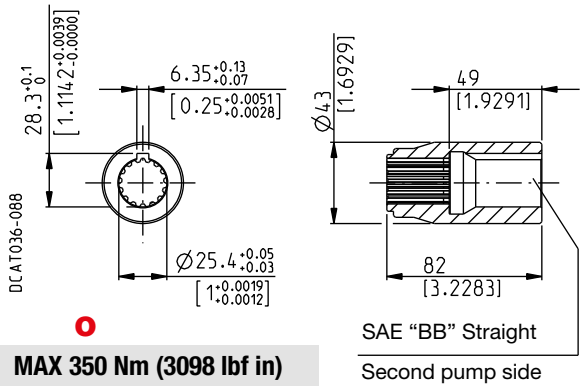
06/06.2026



MAX 200 Nm (1770 lbf in)

SAE “BB” STRAIGHT 33

Available with flange code **AS5**

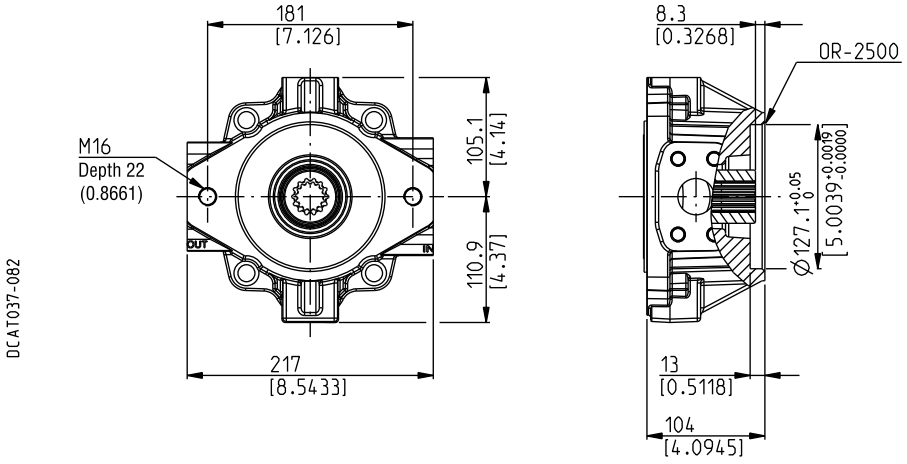


MAX 350 Nm (3098 lbf in)

LVP75-90 INTERMEDIATE FLANGES

SAE “C” 2 HOLES AS7

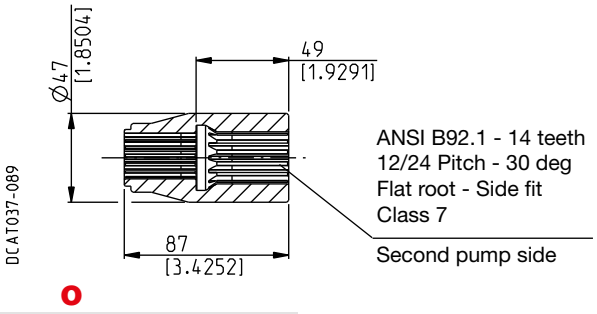
SAE J744



LVP75-90 COUPLINGS - DIMENSIONS

SAE “C” SPLINE 06

Available with flange code **AS7**

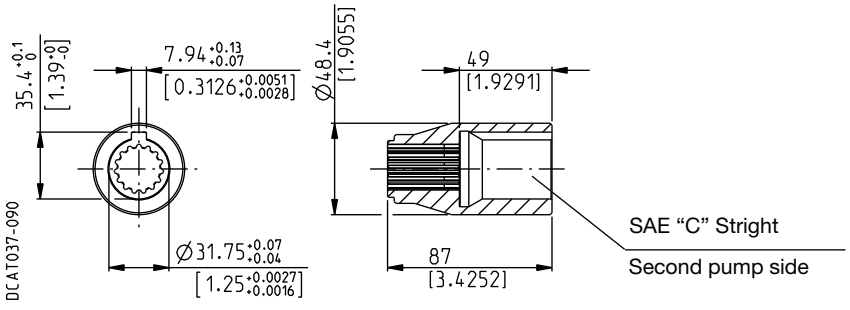


O

MAX 430 Nm (3806 lbf in)

SAE “C” STRAIGHT 34

Available with flange code **AS7**



O

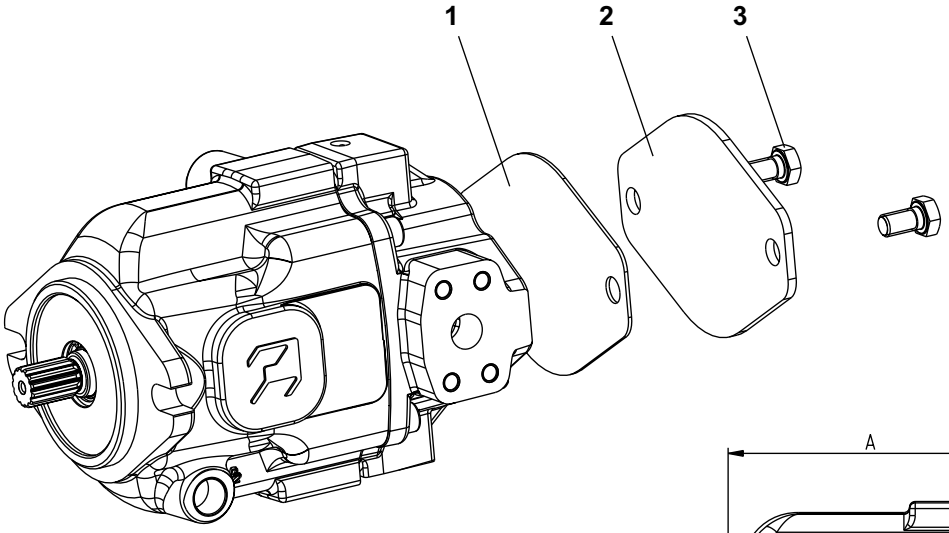
MAX 430 Nm (3806 lbf in)

Replaces: 04/04.2013

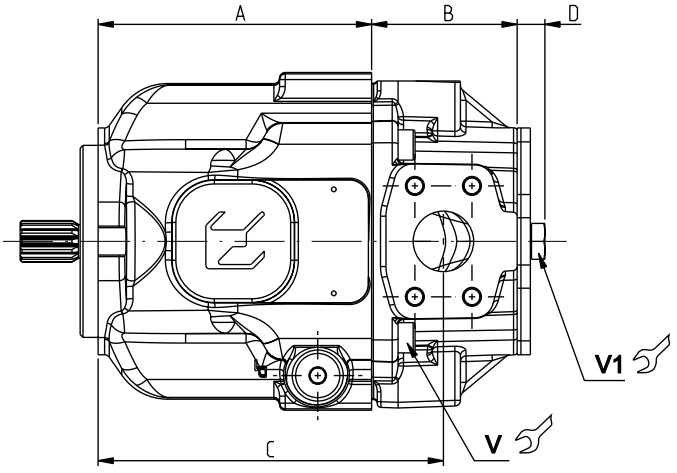
O 06/06.2026

FRONT SECTION KIT COVER

Kit cover is available to obtain single pumps starting from the front sections of multiple pumps.
Before closing the intermediate flange check that the coupling has been removed.



Kit part brake down
1 - Seal
2 - Flange
3 - Screws



DCAT_037_008

Screws tightening torque Nm (lbf in)

V			V1
LVP30	LVP48	LVP75 - LVP90	
70 ±7 (558 ÷ 682)	100 ±10 (797 ÷ 974)	130 ±13 (1036 ÷ 1266)	20 ±1 (159 ÷ 195)

Pump type	A	B			C	D	
	mm (in)	mm (in)	Flanged for	Code	mm (in)	mm (in)	Kit code
LVP30	145 (5.7087)	77 (3.0315)	SAE A	AS1	183 (7.2047)	13,4 (0.5276)	62082200
			SAE B	AS5		14,5 (0.5709)	62082300
LVP48	169 (6.6535)	82 (3.2283)	SAE A	AS1	206 (8.1102)	13,4 (0.5276)	62082200
			SAE B	AS5		14,5 (0.5709)	62082300
LVP75	192 (7.5591)	99 (3.8976)	SAE A	AS1	235 (9.2520)	13,4 (0.5276)	62082200
			SAE B	AS5		14,5 (0.5709)	62082300
		104 (4.0945)	SAE C	AS7		17 (0.6693)	62082400
LVP90	192 (7.5591)	99 (3.8976)	SAE A	AS1	235 (9.2520)	13,4 (0.5276)	62082200
			SAE B	AS5		14,5 (0.5709)	62082300
		104 (4.0945)	SAE C	AS7		17 (0.6693)	62082400

Overall dimensions: the same as the single pumps.
Ports dimensions at pages 33 ÷ 35. - Screws are supplied with the first pump.

04/04.2013

HOW TO ORDER SINGLE PUMPS

1	2		3	4		5	6		7		8 ...
LVP30	S	-	04	S5	-	L	MD/QB	-	N	-	...

1 Pump type (max. displacement)		Code
28,7 cm3/rev (1.75 in3/rev)		LVP30
45,4 cm³/rev (2.77 in³/rev)		LVP48
73,6 cm³/rev (4.49 in³/rev)		LVP75
87,9 cm³/rev (5.36 in³/rev)		LVP90
140 cm³/rev (8.54 in³/rev)	O	LVP140
160 cm³/rev (9.76 in³/rev)	O	LVP160

2 Rotation	Code
Anti-clockwise	S
Clockwise	D

3 Drive shaft (a)	Code
SAE “B” spline (13 teeth)	04
SAE “B” straight	32
Straight Ø 22	68
SAE “BB” spline (15 teeth)	05
SAE “BB” straight	33
Straight Ø 25	69
SAE “C” spline (14 teeth)	06
SAE “C” straight	34
Straight Ø 32	70
SAE “C” spline (14 teeth)	6R
SAE “CC” spline (17 teeth)	HM
SAE “CC” spline (17 teeth)	HK
SAE “CC” straight	L0
SAE “D” spline (13 teeth)	HJ
SAE “D” spline (13 teeth)	HI
SAE “D” straight	LU
ISO straight	LJ

4 Mounting flange (a)	Code
SAE “B” 2 holes	S5
SAE “C” 2-4 holes	S7
ISO Ø 100	Z1
ISO Ø 125	Z2
SAE “D” 4 holes	Z8
ISO Ø 180	Y86

5 Ports position	Code
Side	L
Rear	P

Code	6 Inlet/outlet ports		
	Nominal size		Pump type
	Inlet IN	Outlet OUT	
	SAE 3000	SAE 6000	
SAE FLANGED PORTS METRIC THREAD (SSM)			
MD/QB	1” 1/4	3/4”	LVP 30
ME/QC	1” 1/2	1”	LVP 48
MF/QD	2”	1”	LVP 75
MF/QD	2”	1” 1/4	LVP 90
MG/QD	2” 1/2	1” 1/4	LVP 140-160
SAE FLANGED PORTS UNC THREAD (SSS)			
SD/VB	1” 1/4	3/4”	LVP 30
SE/VC	1” 1/2	1”	LVP 48
SF/VD	2”	1”	LVP 75
SF/VD	2”	1” 1/4	LVP 90
SG/VD	2” 1/2	1” 1/4	LVP 140-160

Code	7 Seals
N	Buna (standard) (b)
V	Viton

Code	8 Regulators
...	See how to order at page 36

(a) Drive shafts availability at pages 25 ÷ 28 and mounting flanges availability at pages 29 ÷ 32

(b) N-PV Buna with Viton shaft seal only for LVP140 and LVP160

Replaces:04/04.2013

O 06/06.2026

HOW TO ORDER REGULATORS

Replaces: 05/12.2022

	8		9		10		11		12		13		14
Pressure compensator	RP0	-			Z		SA	-	G				
Pressure compensator	RP1	-			Z		SA	-	G				
Pressure compensator with flow control	RP1	-	LS2	-	Z		SA	-	G				
Flow compensator	LS0	-			Z	-	SA	-	G				
Flow compensator without bleed	LS2	-			Z	-	SA	-	G				
Pressure compensator for remote control	LS3	-			Z	-	SA	-	G				
Torque limiter - standard	RN0	-			Z	-			G	-	...	/	...
Torque limiter - internal pilot	RN1	-			Z	-			G	-	...	/	...
Unloading valve	U..	-			Z	-	SA	-	G				

8 Regulators type	Code
Pressure compensator	RP0
Pressure compensator	RP1
Flow compensator	LS0
Flow compensator without bleed	LS2
Pressure compensator for remote control	LS3
Torque limiter - standard	RN0
Torque limiter - internal pilot	RN1
Unloading valve - Normally closed 12 VDC	U1
Unloading valve - Normally closed 24 VDC	U2
Unloading valve - Normally open 12 VDC	U6
Unloading valve - Normally open 24 VDC	U7

Code	Flow control option (c) 9
LS2	With flow control

Code	Restrictor option 10
	Without restrictor (standard - no code)
Z	Damping restrictor (only for critical applications)

Code	Angular sensor option 11
	Without angular sensor (standard - no code)
SA	With angular sensor

Code	Displacement limiter 12
	Without limiter (standard - no code)
E	Max. displacement limiter
F	Min. displacement limiter
G	Max. and min. displacement limiter

Code	Torque limiter setting (d) (e) 13
...	Please specify the requested torque value in Nm

Code	Torque limiter setting speed (f) (e) 14
...	Please specify the requested speed value

(c) Only for RP1
(d) Refer to page 39 for more information
(e) For multiple pumps please write these codes at the end
(f) Do not exceed the maximum speed shown at page 7 ÷ 9

06/03.2026

HOW TO ORDER REGULATORS

PRESSURE ELECTRONIC COMPENSATORS

	8		9		10		11		12		13		14		15		16
Pressure electronic compensator with flow control	PEC	-	1	-	A	-	LS0	-	Z	-	...	/	...	-	D	-	G
	PEC	-	1	-	A	-	LS2	-	Z	-	...	/	...	-	D	-	G
Pressure electronic compensator plus angular sensor with flow control	PECA	-	1	-	A	-	LS0	-	Z	-	...		...		D		G
	PECA	-	1	-	A	-	LS2	-	Z	-	...		...	-	D	-	G

8	**Regulators type**	Code
Pressure electronic compensator		PEC
Pressure electronic compensator and swashplate angular sensor		PECA

9	**Valve type**	Code
Normally closed 12 V DC		1
Normally closed 24 V DC		2

10	**Position**	Code
Position 0°		A
Position 90°		B

11	**Flow control option**	Code
Flow compensator (Bleed open)		LS0
Flow compensator (Bleed closed)		LS2

Code	**Restrictor option**	12
	Without restrictor (standard - no code)	
Z	Damping restrictor (only for critical applications)	

Code	**Min. pressure setting**	13
...	Please specify the requested value in bar	

Code	**Max. pressure setting**	14
...	Please specify the requested value in bar	

Code	**Connector type**	15
D	Deutsch DT04-2P	
S	DIN 43650	
JT	Junior timer	

Code	**Displacement limiter**	16
	Without limiter (standard - no code)	
E	Max. displacement limiter	
F	Min. displacement limiter	
G	Max. and min. displacement limiter	

06/06.2026

ORDER EXAMPLE

LVP160 pump with electro-proportional pressure compensator with flow control:

LVP160S-06S7-LMG/QD-N-PEC-1-A-LS2-100/300-D-G

HOW TO ORDER REGULATORS

ELECTRO-PROPORTIONAL DISPLACEMENT COMPENSATORS

	8		9		10		11		12		13		14
Electro-proportional displacement compensator	DEC	-	1	-			Z	-	SA	-	D	-	G
Electro-proportional displacement compensator with flow control	DEC	-	1	-	LS0	-	Z	-	SA	-	D	-	G
	DEC	-	1	-	LS2	-	Z	-	SA	-	D	-	G

8	Regulators type (a)	Code
Electro-proportional displacement compensator		DEC

9	Arrangement	Code
Inverse 12 V DC		1
Inverse 24 V DC		2
Direct 12 V DC		6
Direct 24 V DC		7

10	Flow control option	Code
Flow compensator (Bleed open)		LS0
Flow compensator (Bleed closed)		LS2

Code	Restrictor option	11
	Without restrictor (standard - no code)	
Z	Damping restrictor (only for critical applications)	

Code	Connector type	12
D	Deutsch DT04-2P	
S	DIN 43650	
JT	Junior timer	

Code	Displacement limiter	13
	Without limiter (standard - no code)	
E	Max. displacement limiter	
F	Min. displacement limiter	
G	Max. and min. displacement limiter	

(a) Only for LVP140 and LVP160

O 06/06.2026

ORDER EXAMPLE

LVP140 pump with electro-proportional displacement compensator and flow control:
LVP140S-34Z8-LMG/QD-N-DEC-1-LS0-D-G

HOW TO ORDER MULTIPLE PUMPS

1	2		3	4		5	6		7	8 ... 14		15		16					
LVP 48	S ◆	-	05	S5	-	L	ME/QC	-	N #	-	...	-	AS5	-	04	/	...	/	...	/

Front section (through drive)

LVP 30	S #	-	04	S5	-	L	MD/QB	-	N	-	...	-		-			/	...	/	...

Rear section (single pump)

1 Pump type (max. displacement)	Code
28,7 cm3/rev (1.75 in3/rev)	LVP30
45,4 cm^3/rev (2.77 in^3/rev)	LVP48
73,6 cm^3/rev (4.49 in^3/rev)	LVP75
87,9 cm^3/rev (5.36 in^3/rev)	LVP90

2 Rotation	Code
Anti-clockwise	S
Clockwise	D

3 Drive shaft (a)	Code
SAE “B” spline (13 teeth)	04
SAE “B” straight	32
Straight Ø 22	68
SAE “BB” spline (15 teeth)	05
SAE “BB” straight	33
Straight Ø 25	69
SAE “C” spline (14 teeth)	06
SAE “C” straight	34
Straight Ø 32	70

4 Mounting flange (a)	Code
SAE “B” 2 holes	S5
SAE “C” 2 holes	S7
ISO Ø 100	Z1
ISO Ø 125	Z2

5 Ports position	Code
Side	L
Rear (only for rear section)	P

6 Inlet/outlet ports			Code
Pump type	Nominal size		
	Inlet IN	Outlet OUT	
	SAE 3000	SAE 6000	
SAE FLANGED PORTS METRIC THREAD (SSM)			
LVP 30	1” 1/4	3/4”	MD/QB
LVP 48	1” 1/2	1”	ME/QC
LVP 75	2”	1” 1/4	MF/QD
LVP 90	2”	1” 1/4	MF/QD

Code	6 Inlet/outlet ports		
	Nominal size		Pump type
	Inlet IN	Outlet OUT	
	SAE 3000	SAE 6000	
SAE FLANGED PORTS UNC THREAD (SSS)			
SD/VB	1” 1/4	3/4”	LVP 30
SE/VC	1” 1/2	1”	LVP 48
SF/VD	2”	1” 1/4	LVP 75
SF/VD	2”	1” 1/4	LVP 90

Code	7 Seals
N	Buna (standard)
V	Viton

Code	8 ... 14 Regulators
...	See how to order at page 57

Code	15 Intermediate flange (b)
AS1	SAE “A” 2 holes
AS5	SAE “B” 2 holes
AS7	SAE “C” 2 holes

Code	16 Coupling (b)
03	SAE “A” spline (9 teeth)
31	SAE “A” straight
04	SAE “B” spline (13 teeth)
32	SAE “B” straight
05	SAE “BB” spline (15 teeth)
33	SAE “BB” straight
06	SAE “C” spline (14 teeth)
34	SAE “C” straight

◆ Write the rotation code letter at the end of the complete ordering code

\# Omit code only if ordering assembled multiple pumps

(a) Drive shafts availability at pages 25 ÷ 26 and mounting flanges availability at pages 29 ÷ 30

(b) Intermediate flanges and couplings availability at pages 48 ÷ 54

04/04.2013

ORDER EXAMPLE

SINGLE PUMPS

With pressure compensator and flow control	LVP 30 S-04S5-L MD/QB-N-RP1-LS2
With flow compensator without bleed	LVP 30 S-04S5-L MD/QB-N-LS2
With torque limiter - internal pilot	LVP 30 S-04S5-L MD/QB-N-RN1-150/2100

ASSEMBLED MULTIPLE PUMPS

With pressure compensator and flow control	LVP 30-04S5-L MD/QB-N-RP1-LS2-AS5-04/30·28-04S5-L MD/QB-N-RP1-LS2-S
With flow compensator without bleed	LVP 30-04S5-L MD/QB-N-LS2-AS5-04/30·28-04S5-L MD/QB-N-LS2-S

INDIVIDUAL SECTIONS

Front section with pressure compensator and flow control	LVP 30 S-04S5-L MD/QB-N-RP1-LS2-AS5-04/30·28-04S5-L MD/QB-N-RP1-LS2
Rear section with pressure compensator and flow control	LVP 30 S-04S5-L MD/QB-N-RP1-LS2

04/04.2013

NOTES

06/04.2026

Our policy is one of continuous improvement in product. Specification of items may, therefore, be changed without notice.

LVP 06 T A Edition: 06/06.2026 Replaces: LVP 05 T A

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