



A Polyhydron Group Company

RADIAL PISTON PUMP 1R

ENGINEERING

1

Ref. No. P04890

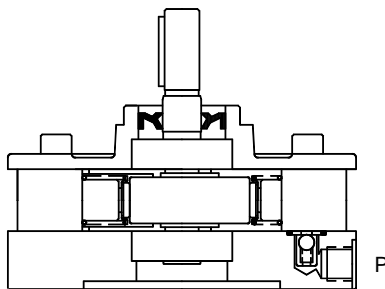
Release 08/2011

Description

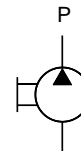
Radial piston arrangement, with 3, 5 or 7 pumping elements.
Oil immersed face mounting. Valve controlled. Fixed delivery.
Bi-directional rotation of shaft. With extension shaft for through
drive. Available with extension bracket assembly for coupling a
low pressure pump having standard flange.



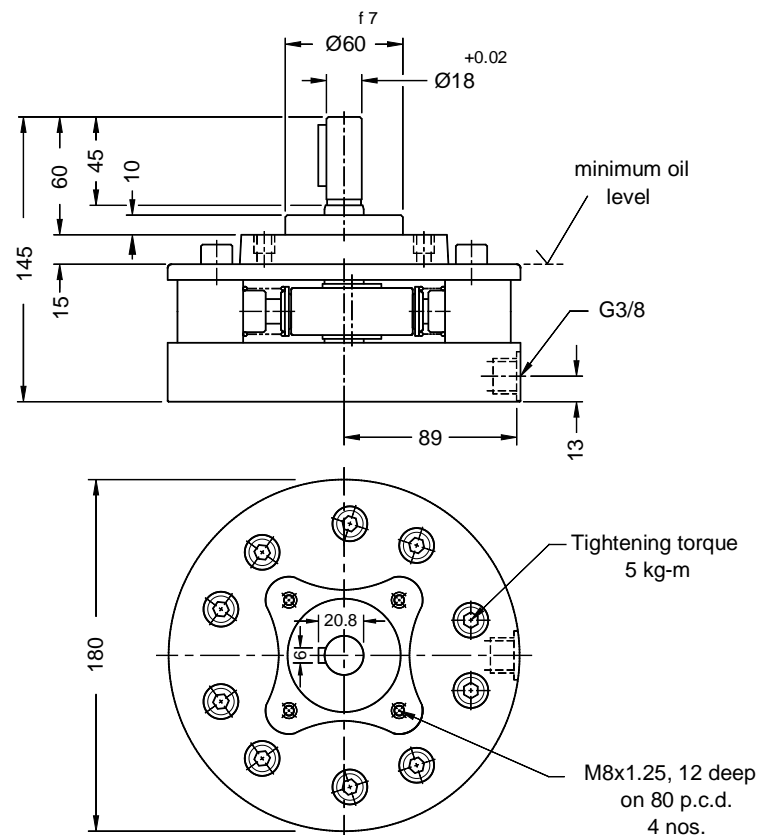
Section



Hydraulic Symbol



Unit dimension



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Technical specification

Designation	1R basic radial piston pump group.
Design	Radial piston, valve controlled.
No. of pistons	3, 5 or 7; depending upon flow requirement.
Mounting	Face mounting.
Interface	Factory standard.
Direction of rotation	Can be run in either direction.
1R.....	
1RE	Depends upon the direction of rotation of pump attached.
Connection	Sucks oil directly from tank, no suction port is provided.
Suction	
Delivery.....	G 3/8 female.
Speed range	300 to 2000 rpm.
Hydraulic medium	Mineral oil.
Viscosity range	10 to 100 cSt.
Optimum Viscosity range	16 to 32 cSt.
Temperature range	-10 °C to +80 °C.
	(Do not exceed viscosity limits at extreme temperatures for efficient running of the pump)
Fluid cleanliness requirement	As per ISO Code 16/13.
Performance	Refer Table No. 1.
Mass	11.5 kg.

Table No. 1

Code No.	Geometrical displacement CC / REV	Rated output at 1450 rpm. (l / min)	Operating pressure bar	Input power requirement (@ 1450 rpm)																									
				50 bar		100 bar		150 bar		200 bar		250 bar		300 bar		350 bar		400 bar		450 bar		500 bar		550 bar					
				KW	Hp	KW	Hp	KW	Hp	KW	Hp	KW	Hp	KW	Hp	KW	Hp	KW	Hp	KW	Hp	KW	Hp	KW	Hp				
3A	1.21	1.5	550	0.17	0.23	0.3	0.5	0.5	0.7	0.7	0.9	0.9	1.2	1.2	1.5	1.4	1.9	1.7	2.3	2	2.7	2.3	3.1	2.6	3.5	2.9	3.8	3.2	4.2
5A	2.01	2.6	550	0.29	0.38	0.6	0.8	0.9	1.2	1.2	1.5	1.4	1.9	1.7	2.3	2	2.7	2.3	3.1	2.6	3.5	2.9	3.8	3.2	4.2	3.5	4.5	3.8	4.8
7A	2.81	3.7	550	0.4	0.54	0.8	1.1	1.2	1.6	1.6	2.2	2	2.7	2.4	3.2	2.8	3.8	3.2	4.3	3.6	4.8	4	5.4	4.4	5.9	4.8	6.4	5.2	6.8
3B	1.88	2.5	450	0.27	0.36	0.5	0.7	0.8	1.1	1.1	1.4	1.3	1.8	1.6	2.2	1.9	2.5	2.1	2.9	2.4	3.2								
5B	3.14	4.2	450	0.45	0.6	0.9	1.2	1.3	1.8	1.8	2.4	2.2	3	2.7	3.6	3.1	4.2	3.6	4.8	4	5.4								
7B	4.4	5.8	450	0.63	0.84	1.3	1.7	1.9	2.5	2.5	3.4	3.1	4.2	3.8	5	4.4	5.9	5	6.7	5.6	7.5								
3C	2.71	3.7	350	0.39	0.52	0.8	1	1.2	1.6	1.5	2.1	1.9	2.6	2.3	3.1	2.7	3.6												
5C	4.52	6.2	350	0.64	0.86	1.3	1.7	1.9	2.6	2.6	3.5	3.2	4.3	3.9	5.2	4.5	6												
7C	6.33	8.6	350	0.9	1.21	1.8	2.4	2.7	3.6	3.6	4.8	4.5	6	5.4	7.2	6.3	8.5												
3D	3.19	4.3	300	0.45	0.61	0.9	1.2	1.4	1.8	1.8	2.4	2.3	3	2.7	3.6														
5D	5.31	7.2	300	0.76	1.01	1.5	2	2.3	3	3	4.1	3.8	5.1	4.5	6.1														
7D	7.43	10	300	1.06	1.42	2.1	2.8	3.2	4.3	4.2	5.7	5.3	7.1	6.3	8.5														
3E	3.69	5	250	0.53	0.7	1	1.4	1.6	2.1	2.1	2.8	2.6	3.5																
5E	6.16	8.4	250	0.88	1.17	1.8	2.4	2.6	3.5	3.5	4.7	4.4	5.9																
7E	8.62	11.7	250	1.23	1.64	2.5	3.3	3.7	4.9	4.9	6.6	6.1	8.2																
3F	4.24	5.8	200	0.6	0.81	1.2	1.6	1.8	2.4	2.4	3.2																		
5F	7.07	9.7	200	1	1.35	2	2.7	3	4	4	5.4																		
7F	9.9	13.6	200	1.11	1.89	2.8	3.8	4.2	5.7	5.6	7.5																		

Note : The first digit in the code No. indicates No. of pumping elements in the pump. The second letter indicates flow and pressure rating of the pumping elements.

Code No. 7D for example, indicates a pump with 7 pumping elements having rated flow of 10 l / min and operating pressure upto 300 bar.



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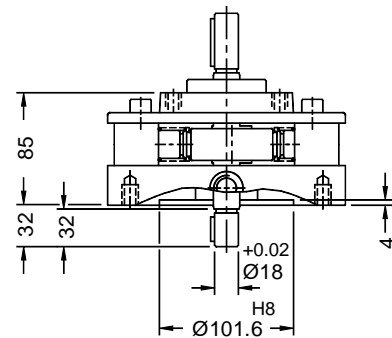
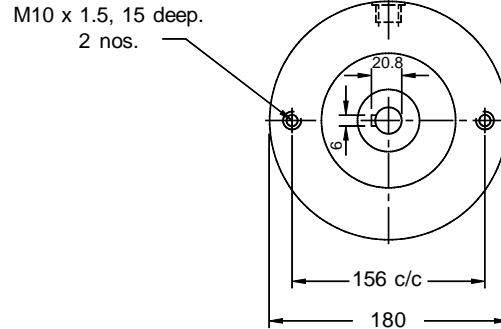
ENGINEERING

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Ref. No. P04890

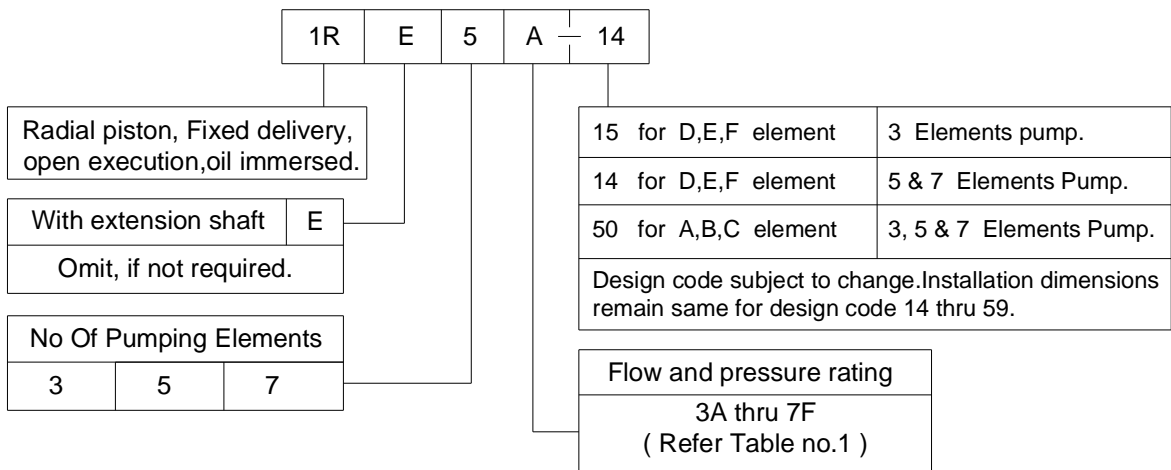
Accessories

Extension shaft (For through drive)
Dimensions



Note :
Torque limitation - The sum of torque used for the piston pump and torque used at extended shaft end should not exceed 75 Nm (11kW @ 1450 rpm)

Ordering code



For 3 Pumping Element Pump without Extension Shaft please Ref : P04931

Note : For Bell housing refer sheet no. P09035.
For Extension bracket sheet no. P09090.



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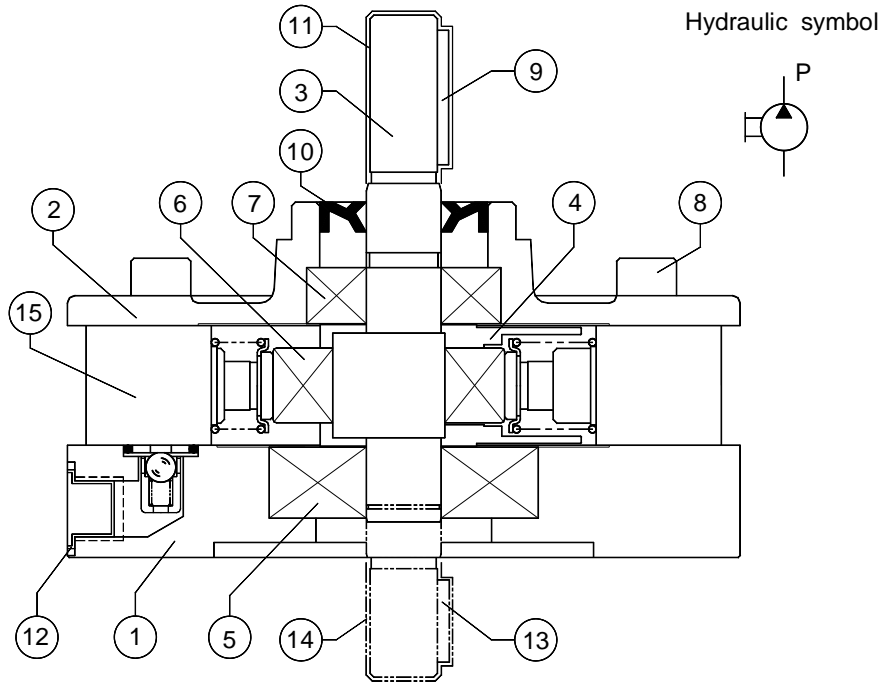
RADIAL PISTON PUMP 1R

SERVICE

4

Ref. No. P04890

Sectional view and Part list



Sl.No.	Description	1RE3			1R5 / 1R7	1RE5 / 1RE7	Size	Qty.
		Part No.	Size	Qty.	Part No.	Size		
1	Valve plate	11205		1	11208/11211			1
2	Cover plate	11225		1	11227/11229			1
3	Shaft	11243		1	11242	11243		1
4	Balancing Plate	11251		2	11252			2
5	Bottom Bearing	11261	6304	2	11264		6404	1
6	Centre Bearing.	11262	3206	1	11265		NUP 2206	1
7	Top Bearing.	--	--	--	11266		NJ 304ECP	1
8	Cap screw	11271	M10 x 55 L	6	11271		M10 x 55 L	10/14
9	Shaft Key	11293	6 x 6 x 36	1	11293		6 x 6 x 36	1
* 10	Rotary Shaft Seal	11277	Dou. Lip 47	1	11277		Dou. Lip 47	1
11	Plastic cap	11283	1R (Shaft)	1	11283		1R (Shaft)	1
12	Rubber Port Plug	00012	G 3/8 Plug Cap	1	00012		G 3/8 Plug Cap	1
13	Shaft Key	11294	6 x 6 x 22	1	--	11294	6 x 6 x 22	1
14	Plastic cap	11284	1RE (Shaft)	1	--	11284	1RE (Shaft)	1
Sl.No.	Description	Product		Qty.				
				1RE3	1R*5 / 7			
15	Pump element assly. (Refer Data Sheet No. D 11100)	1R-A-01 / 1R-B-01 / 1R-C-01 1R-D-01 / 1R-E-01 / 1R-F-01.		3	5 / 7			

Note : Specified part numbers are available as spares.

* Recommended seal kit.

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Subject to revision.