



RADIAL PISTON PUMP 12R

ENGINEERING

1

Ref. No. P09197

Release 10/2004

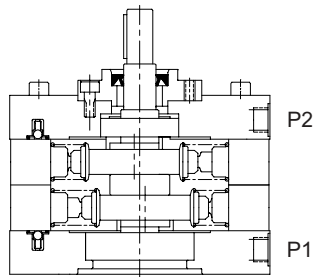
Description

Radial piston arrangement, with 5 or 7 pumping elements each per pump section. 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.

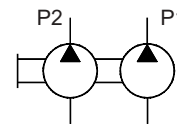
Flows can be combined internally, externally to feed one circuit or used independently to feed Two circuits.



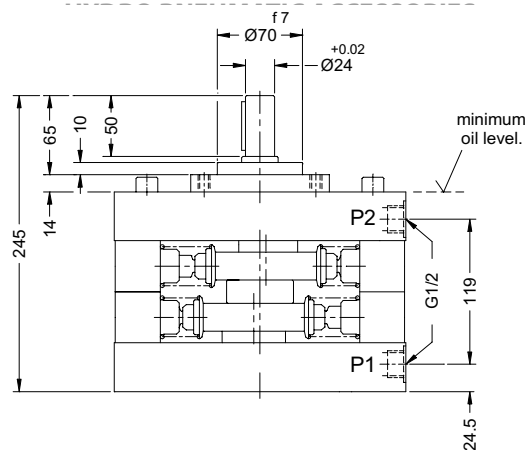
Section



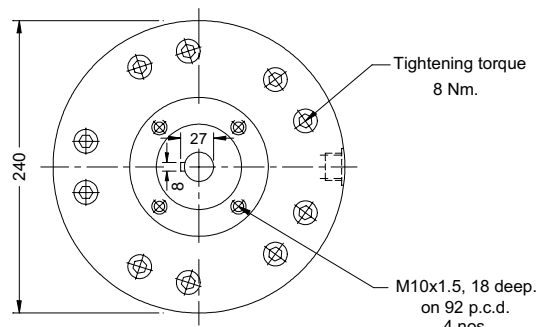
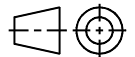
Hydraulic Symbol



Unit Dimensions



Dimensions in mm.



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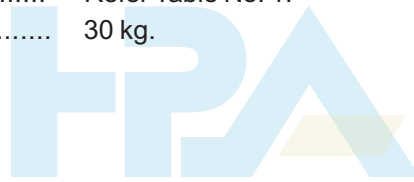
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Technical Specifications

Designation.....	12R basic radial piston pump group.
Design.....	Radial piston, valve controlled.
No.of pistons	5 or 7; depending upon flow requirement.
Mounting.....	Face mounting.
Interface.....	Factory standard.
Direction of rotation	12R Can be run in either direction.
..... 12RE	Depends upon the direction of rotation of pump attached.
Connection	Suction..... Sucks oil directly from tank, no suction port is provided.
..... Delivery	G 1/2 female.
Speed range	1000 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.....	30 kg.



HYDRO PNEUMATIC ACCESSORIES

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Table no. 1.

Code No.	Geometrical displacement CC / REV	Rated output at 1450 rpm l / min	Rated output at 1450 rpm & 95% efficiency l/min.	Operating pressure bar	Input power requirement (@ 1450 rpm & 95% efficiency)																	
					50 bar		100 bar		150 bar		200 bar		250 bar		300 bar		315 bar		350 bar		400 bar	
					kW	hp	kW	hp	kW	hp	kW	hp	kW	hp	kW	hp	kW	hp	kW	hp	kW	hp
5A	7.7	11.2	10.6	400	1	1.4	2.1	2.8	3.1	4.2	4.1	5.6	5.1	7	6.2	8.4	6.5	8.8	7.2	9.8	8.2	11.1
7A	10.8	15.7	14.9	400	1.4	2	2.9	3.9	4.3	5.9	5.8	7.8	7.2	9.8	8.7	11.8	9.1	12.3	10.1	13.7	11.5	15.7
5B	10.1	14.7	14	315	1.4	1.8	2.7	3.7	4.1	5.5	5.4	7.3	6.8	9.2	8.1	11	8.5	11.6				
7B	14.1	20.5	19.5	315	1.9	2.6	3.8	5.1	5.7	7.7	7.5	10.2	9.4	12.8	11.3	15.4	11.9	16.1				
5C	12.7	18.5	17.6	250	1.7	2.3	3.4	4.6	5.1	6.9	6.8	9.2	8.5	11.5								
7C	17.8	25.8	24.5	250	2.4	3.2	4.7	6.4	7.5	9.7	9.5	12.9	11.9	16.1								

Note : For double pumps, the above pump code number needs to be modified in the following manner. The first digit in the code number indicates number of pumping elements in each pump section. The second letter indicates flow and pressure rating of the pumping elements of P1 port end section and the third letter indicates flow and pressure rating of the pump elements of P2 port end section. Code no. 5AC for example, indicates a double pump having a flow and pressure rating of 5A for P1 port end section and 5C rating for P2 port end section.



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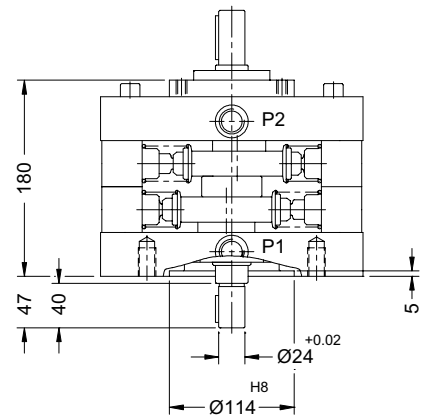
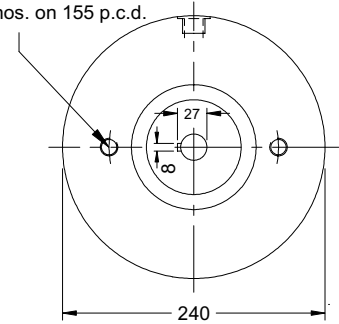
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Accessories

Extension shaft (For through drive)
Unit dimensions

M16x2 tap, 26 deep.
2 nos. on 155 p.c.d.



Note :

Torque limitation :- The sum of torque used for the piston pump and torque used at extended shaft end should not exceed 148 Nm. (22.2 kW @ 1450 rpm)

Ordering Code

HYDRO PNEUMATIC ACCESSORIES

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12R	E	5	AC	C	02
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Basic pump, radial piston,
open execution,
oil immersed double rows

With extension shaft | E
Omit if not required

5	7
No. of pumping elements per section each port	

Design code subject to
change installation
dimensions remain same
for design code 01 thru 09.

C	Combined Delivery
Omit if not required	

Flow and pressure rating
Ref. foot note of Table No. 1

Note 1 : A double pump of model code 12R5AC, for example, will have 5 pumping elements of 'A' flow and pressure rating at it's P1 port end section and 5 pumping elements of 'C' flow and pressure rating at it's P2 port end section.

Note 2 : For Bell Housing refer Sheet No. P09035.

For Extension Bracket refer Sheet No. P09090.



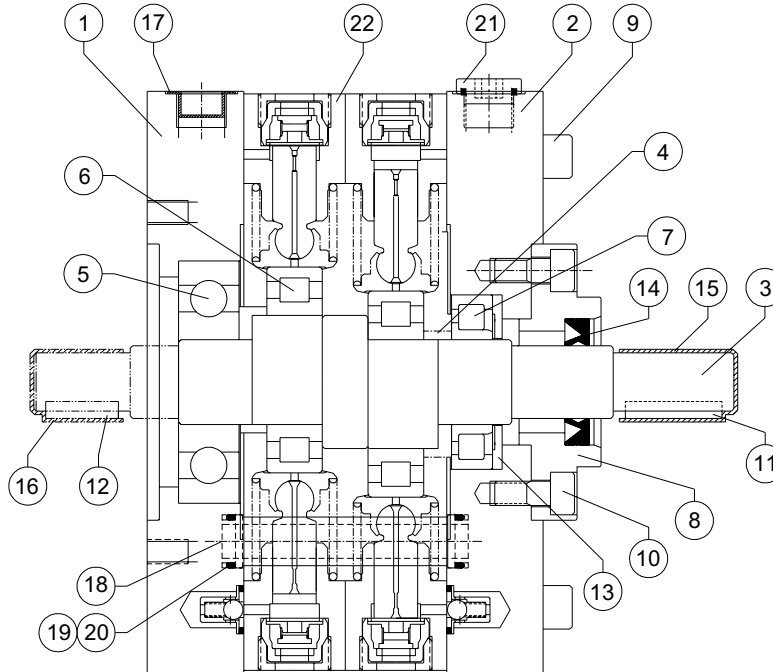
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Sectional View and Parts List



12R5**/12R7**	12RE5**/12RE7**
12R5**-C/12R7**-C	12RE5**-C/12RE7**-C

Sl. No.	Description	Part No.		Size	Qty.
		12R5**/12R7**	12RE5**/12RE7**		
1	Valve plate	12201/12203	12201/12203		1
2	Valve plate	12205/12207	12205/12207		1
3	Shaft	12243	12244		1
4	Spacer	12252			2
5	Bottom Bearing	12261		KOYO 6407	1
6	Centre Bearing.	12262		NUP 2206	1
7	Top Bearing.	12263		NJ 207	1
8	Mounting Flange	12235			1
9	Cap screw	12265		M12x140 L	10/14
10	Cap screw	00116		M10x20 L	4
11	Shaft Key	12277		8x7x40	1
12	Shaft Key		12278	8x7x30	1
13	Washer	12281			1
*14	Rotary shaft seal	12266		Dou.Lip 52	1
15	Plastic cap	12270		11R	1
16	Plastic cap		12271	11RE(Shaft)	1
17	Rubber Port Plug	00013		G 1/2 Plug Cap	2
18	Connecting Pipe	12259			1
19	O'Ring	12279		17x2.5	2
20	Backup Ring	12280		17.6x22x1.2	2
21	Elastomeric Plug	00204		G 1/2	1
22	Pump element assly. (Refer Data Sheet No. A 12100)			11R-A-01 11R-B-01 11R-C-01	10/14

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Subject to revision.