Radial piston pumps type R and RG

The radial piston pumps consist of valve-controlled pump cylinders that are arranged radially. Higher volumetric flows can be achieved by arranging up to 6 radials in parallel. The pump is usually driven by an electric motor, which is connected to the pump via a flange and coupling. The closed pump housing allows for installation in a tank (hydraulic power pack) as well as installation outside a tank (motor pump). The possibility of a radial piston pump with several pressure outlets (several equal or different volumetric flows) is particularly innovative. Type RG with slide bearings is used in extreme operating conditions to increase the service life of the bearings. Compact control systems can be created by mounting various connection blocks and valve banks onto the cover plate of the hydraulic power packs.

Nomen-clature:	**Radial piston pump**
Design:	**Individual pump Pump complete with motor Hydraulic power pack**
p_{max}:	**700 bar**
Q_{max}:	**91.2 lpm (V_g = 64.18 cm³/rev)**
$V_{tank\ max}$:	**approx. 470 l**

Features and benefits:

- High level of efficiency
- Compact design
- Max. 14 separate pressure outlets
- Available from the modular product range as a hydraulic power pack with valve banks

Intended applications:

- Press construction
- Jig construction
- Testing and laboratory devices
- Lubricating systems

Design and order coding example

R 11,6 / M 7,5 K

Options
- Fluid level gauge
- Temperature switch
- Float switch

Function, drive

Motor pump
- With/without industrial standard motor (output P_N in kW)

Hydraulic power packs
- Version with tank, with/without industrial standard motor
  Consumable volume $V_{cons.}$ 6 l to 450 l
- Cover plate version (for installation on customer furnished tanks), with/without industrial standard motor
- Combination motor + pump (for installation on customer furnished cover plates and tanks)
- With direct current drive (design 6011)

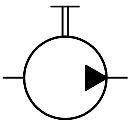
Basic type, delivery flow [lpm]

Type R (version with roller bearing) and type RG (version with slide bearing)

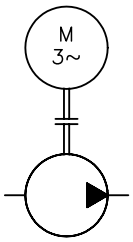
Additional versions:
- With several pressure ports
- With separate ports for the flow of one or two pump elements (Q_{max} = 4,4 lpm)
  e.g. as control oil supply
- Integrated switch-off valve at two pressure ports

Function

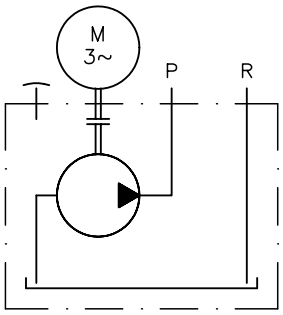
Individual pump



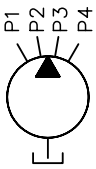
Pump complete with motor



Hydraulic power pack

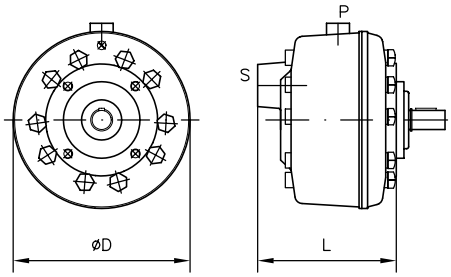


Pump with several pressure outlets (example for an individual pump)

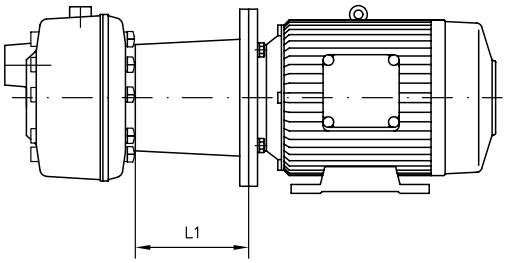


General parameters and dimensions

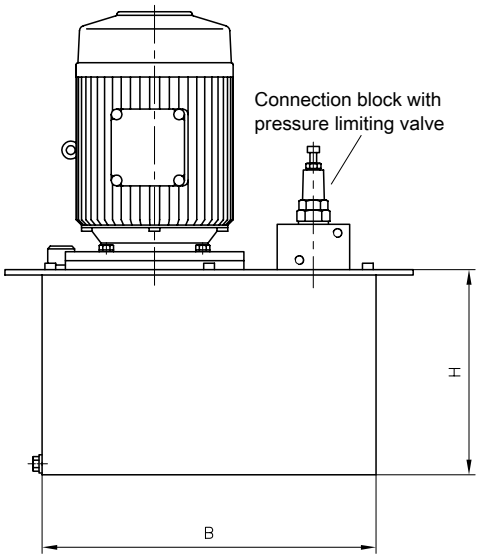
Individual pump

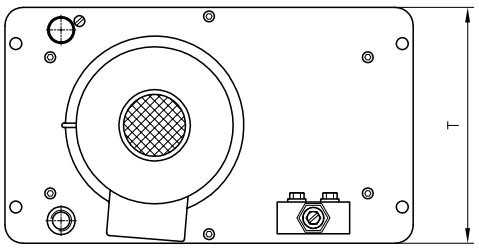


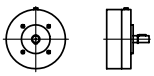
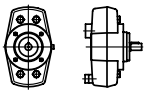
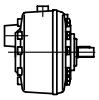
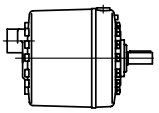
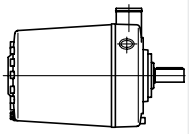
Pump complete with motor



Hydraulic power pack





Design		Number of cylinders	Delivery flow Q_{pu} (lpm) (approximate reference value at 1450 rpm) and max. pressure p_{max} (bar)						Tank sizes	Dimensions [mm]			
			700 bar	550 bar	450 bar	250 bar	160 bar	P_N [kW]	$V_{use.}$ [l]	D	L	$L1_{max}$	m [kg][2]
7631		2	0.18	0.28	0.43	0.92	-	0.25...0.55	6...45	130	53	109	3.2
		3	0.27	0.42	0.64	1.35	-						
		5	0.46	0.7	1.08	2.27	-						
6010		1	0.3	0.5	0.8	1.7	2.2	0.25...3	6...80	174	82.5	113	3.1
		2	0.6	1.0	1.6	3.3	4.4						
		3	0.9	1.5	2.5	5.1	6.5						
6011		5	1.4	2.6	4.2	8.3	10.9	0.55...5.5	6...160	185	86	155	5.8
		7	2.1	3.7	5.8	11.8	15.3						
6012		10	2.7	5.3	8.2	16.8	21.7	2.2...11	20...160	185	146	188	10.5
		14	4.0	7.4	11.6	23.5	30.4						
6014		20	6.1	11.0	17.4	35.0	43.4	5.5...22	80...450	218	250	188	24.2
		28	8.0	15.0	23.0	47.0	60.8						
6016		42	12.7	22.0	34.5	70.0	91.2	11...30	120...450	238	311	212	39.1

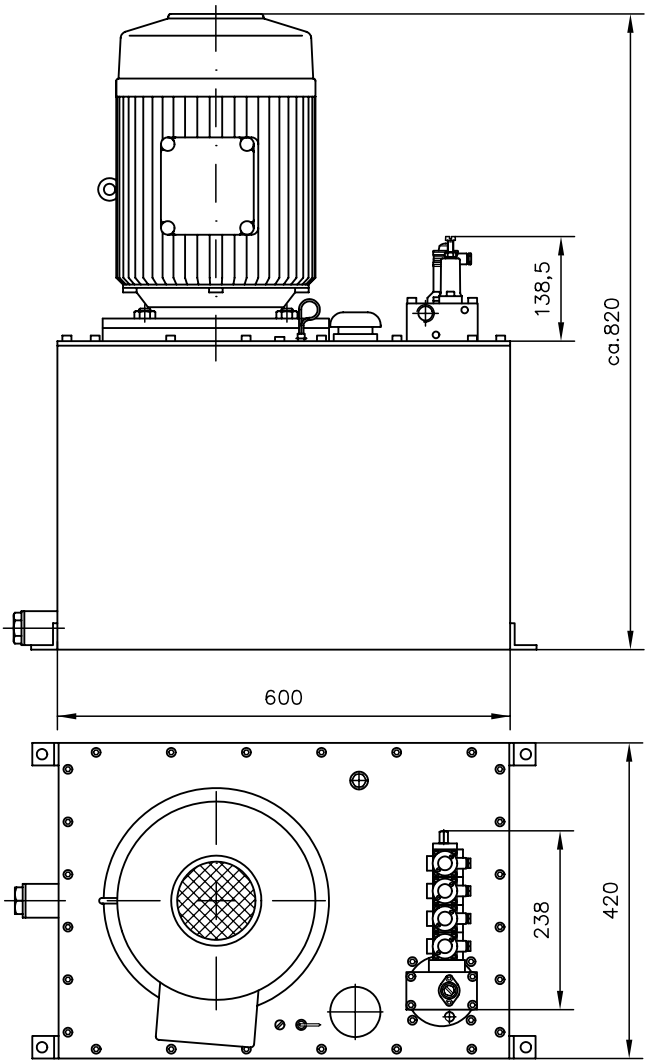
- The parameters listed here represent only a choice from avariety of possibilities.
1) Standard motor, design IM B 35 for pumps complete with motor or IM B 5 for hydraulic power packs.
2) Mass of the individual pump

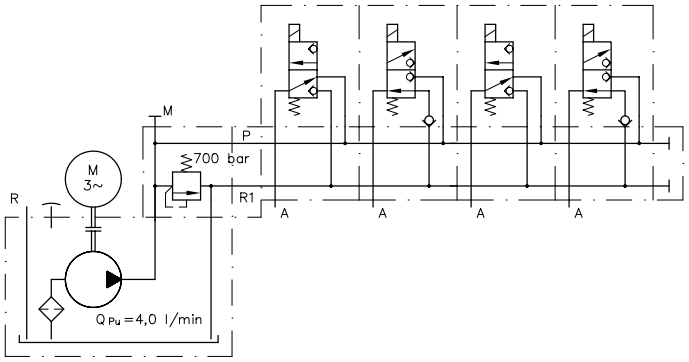
Hydraulic power pack:

Tank size	H [mm]	B [mm]	T [mm]	V_{max} tank [l]
B 6	230	253	315	9.3
B 13	230	368	260	17
B 20	320	368	260	25
B 30	320	448	320	39
B 40	320	448	440	55
B 50	403	600	420	85
B 75	478	600	420	107
B 100	536	650	500	152
B 160	666	650	500	193
B 250	575	1000	600	309
B 400	825	1000	600	469

Circuit example:

R 4,0/B 50 A 700 - VB 11 DM - HRHR - 1 - G 24 - V 5,5





Associated technical data sheets:

- Radial piston pumps type R, RG: D 6010
- Motor pumps, hydraulic power packs type R, RG: D 6010 H
- Radial piston pumps with several pressure ports type R, RG: D 6010 D, D 6010 DB
- Radial piston pumps with control oil port type R: D 6010 S
- Hydraulic power packs with gear pump type Z: D 6820

Directly mountable valve banks:

- Type VB: D 7302
- Type BWH(N): D 7470 B/1
- Type SWR: D 7450, D 7451
- Type SKP:D 7230