

Pumps

Axial piston pumps

Axial piston pumps in swash plate and bent axis design are intended for the medium and high pressure range. Variations in the designs, in the performance ranges and in the adjustment options offer perfect solutions for mobile and stationary application ranges.

External gear pumps

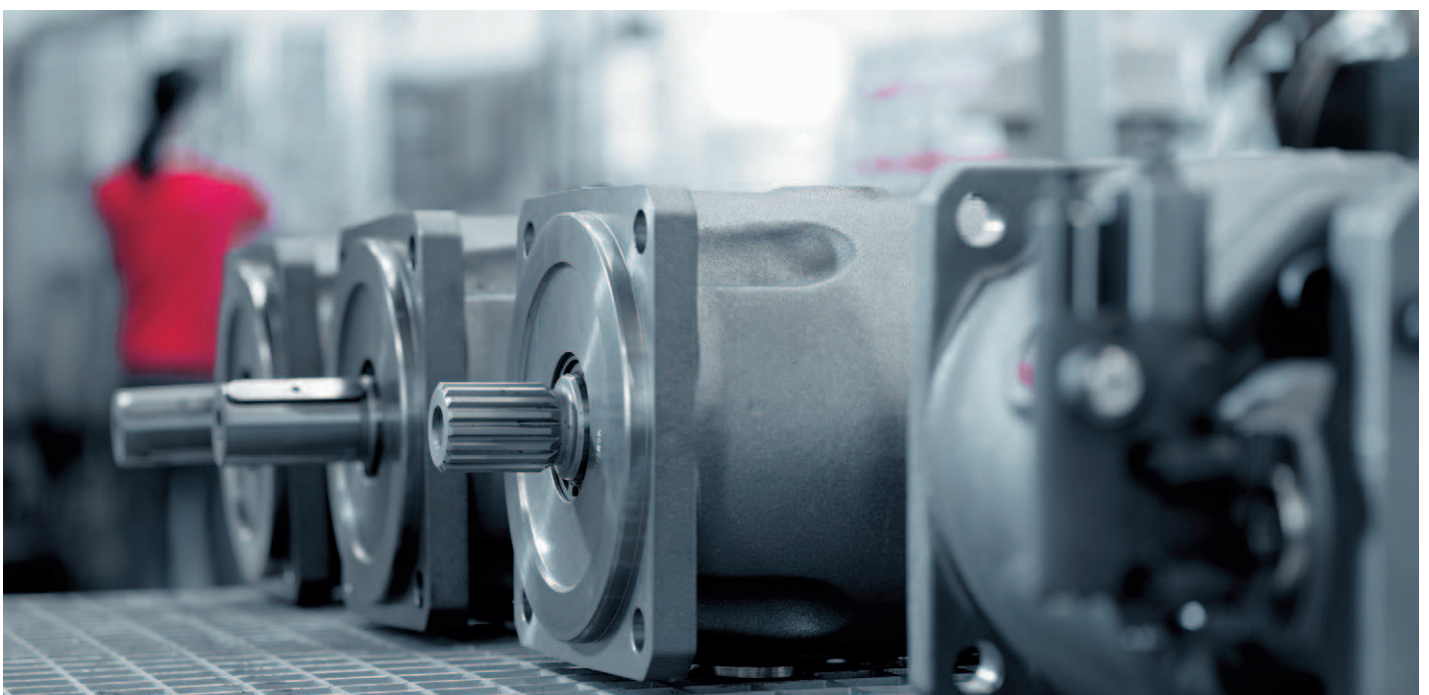
External gear pumps are cost-effective displacement pumps. They are available in many different versions. A selected range of single and multiple pumps is available within 10 working days.

Internal gear pumps

Internal gear pumps can be used up to a continuous pressure of 315 bar (depending on the frame size). This pump principle features a compact design with particularly high energy density.

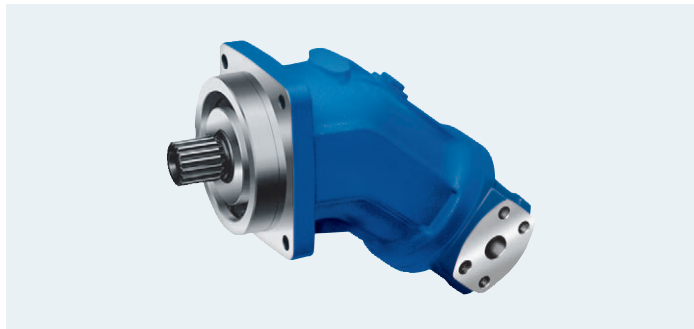
Vane pumps

Vane pumps are available in a wider range of sizes. They are used in applications requiring medium operating pressures and low noise emissions.



Axial piston fixed displacement pump

A2FO series 6



- ▶ Size 10 ... 200
- ▶ Nominal pressure 400 bar
- ▶ Peak pressure 450 bar
- ▶ Open circuit

Features

- ▶ Axial tapered piston bent axis design
- ▶ Working ports SAE flanges or thread
- ▶ High power density
- ▶ Small dimensions
- ▶ High overall efficiency
- ▶ Economic concept

Product description

A2FO is a displacement pump with axial tapered piston transmission in bent axis design for hydrostatic drives in the open circuit. The flow is proportional to the drive speed and the displacement.

More detailed information:

Data sheet 91401

Technical data

Size	Size		10	12	16	28	32	45	56	63
Displacement	V_g	cm ³	10.3	12	16	28.1	32	45.6	56.1	63
Speed	n_{nom}	min ⁻¹	3150	3150	3150	2500	2500	2240	2000	2000
Flow at n_{nom}	q_v	l/min	32	38	50	70	80	102	112	126
Torque $\Delta p = 400$ bar	T	Nm	66	76	102	179	204	290	357	401

Size	Size		80	90	107	125	160	180	200	
Displacement	V_g	cm ³	80.4	90	106.7	125	160.4	180	200	
Speed	n_{nom}	min ⁻¹	1800	1800	1600	1600	1450	1450	1550	
Flow at n_{nom}	q_v	l/min	145	162	171	200	233	261	310	
Torque $\Delta p = 400$ bar	T	Nm	512	573	679	796	1021	1146	1273	

For order details regarding the GoTo products, see page 126.

Bosch Rexroth AG, RE 01500, 2014-05

Axial piston fixed displacement pump

A17FO series 10



- ▶ Size 23 ... 107
- ▶ Nominal pressure 300 bar
- ▶ Peak pressure 350 bar
- ▶ Open circuit
- ▶ Application in commercial vehicles

Features

- ▶ Axial tapered piston bent axis design
- ▶ Flange and shaft for direct attachment at the ancillary output of commercial vehicles
- ▶ Easy adjustment to the direction of rotation of the drive
- ▶ High self-priming ability
- ▶ No leakage line required
- ▶ Noise-optimized

Product description

A17FO is a displacement pump with axial tapered piston transmission in bent axis design for hydrostatic drives in the open circuit. The pump has been especially designed for use in commercial vehicles, e.g. street tippers, dump trucks, HGV loading cranes, tankers, municipal vehicles. The flow is proportional to the drive speed and the displacement.

More detailed information:

Data sheet 91520

Technical data

Size	Size		23	32	45	63	80	107	
Displacement	V_g	cm ³	22.9	32	45.6	63	80.4	106.7	
Speed	n_{nom}	min ⁻¹	3050	2750	2650	2200	2150	2000	
Flow at n_{nom}	q_v	l/min	70	88	121	139	173	213	
Torque	$\Delta p = 300 \text{ bar}$	T	Nm	109	153	218	301	384	509

Axial piston fixed displacement pump

A17FNO series 10



Features

- ▶ Axial tapered piston bent axis design
- ▶ Flange and shaft for direct attachment at the ancillary output of commercial vehicles
- ▶ Easy adjustment to the direction of rotation of the drive
- ▶ High self-priming ability
- ▶ No leakage line required
- ▶ Noise-optimized

- ▶ Size 125
- ▶ Nominal pressure 250 bar
- ▶ Peak pressure 300 bar
- ▶ Open circuit
- ▶ Application in commercial vehicles

Product description

A17FNO is a displacement pump with axial tapered piston transmission in bent axis design for hydrostatic drives in the open circuit. The pump has been especially designed for use in commercial vehicles, e.g. street tippers, dump trucks, HGV loading cranes, tankers, municipal vehicles. The flow is proportional to the drive speed and the displacement.

More detailed information:
 Data sheet 91510

Technical data

Size	Size		125
Displacement	V_g	cm ³	125
Speed	n_{nom}	min ⁻¹	1750
Flow at n_{nom}	q_v	l/min	219
Torque $\Delta p = 250 \text{ bar}$	T	Nm	497

Axial piston variable displacement pump

A15VSO series 10



- ▶ Size 175 ... 280
- ▶ Nominal pressure 350 bar
- ▶ Peak pressure 420 bar
- ▶ Open circuit

Features

- ▶ Axial piston swash plate design
- ▶ Controller-specifically, 100 % mooring function is possible (over center operation, motor operation)
- ▶ Compact design
- ▶ High efficiency
- ▶ High power density
- ▶ Low noise level

Product description

A15VSO is a variable displacement pump with axial piston transmission in swash plate design for hydrostatic drives in the open circuit. The flow is proportional to the drive speed and the displacement. By adjusting the swash plate, the flow can be steplessly changed.

More detailed information:

Data sheet 92800

Technical data

Size	Size		175	210	280
Displacement	$V_{g \max}$	cm ³	175	210	280
Speed	n_{nom}	min ⁻¹	2150	2100	1800
Flow at n_{nom}	q_v	l/min	376	441	504
Torque $\Delta p = 350 \text{ bar}$	T	Nm	975	1170	1560

Axial piston variable displacement pump

A10VSO series 31



- Size 18 ... 140
- Nominal pressure 280 bar
- Peak pressure 350 bar
- Open circuit

Features

- Axial piston swash plate design
- Good suction behavior
- Low noise level
- Long life cycle
- Versatile controller program
- Short control time

Product description

A10VSO is a variable displacement pump with axial piston transmission in swash plate design for hydrostatic drives in the open circuit. The flow is proportional to the drive speed and the displacement. By adjusting the swash plate, the flow can be steplessly changed.

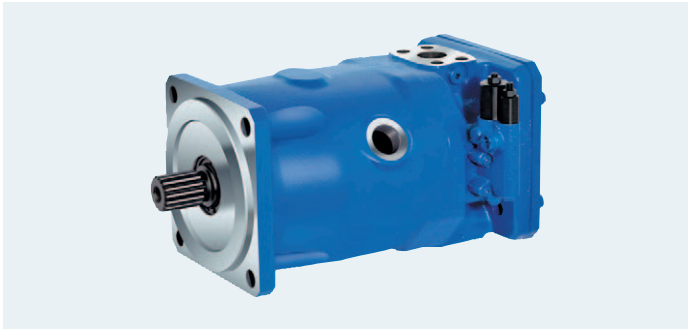
More detailed information:
Data sheet 92711

Technical data

Size	Size		18	28	45	71	100	140	
Displacement	$V_{g\ max}$	cm ³	18	28	45	71	100	140	
Speed	n_{nom}	min ⁻¹	3300	3000	2600	2200	2000	1800	
Flow at n_{nom}	q_v	l/min	59	84	117	156	200	252	
Torque	$\Delta p = 280\ bar$	T	Nm	80	125	200	316	445	623

Axial piston variable displacement pump

A10VSO series 32



- ▶ Size 45 ... 140
- ▶ Nominal pressure 280 bar
- ▶ Peak pressure 350 bar
- ▶ Open circuit

Features

- ▶ Axial piston swash plate design
- ▶ Hydrostatically unloaded cradle bearings
- ▶ Low noise level
- ▶ Low pressure pulsation
- ▶ High efficiency
- ▶ High resistance to cavitation, suction pressure drops and housing pressure peaks

Product description

A10VSO is a variable displacement pump with axial piston transmission in swash plate design for hydrostatic drives in the open circuit. The flow is proportional to the drive speed and the displacement. By adjusting the swash plate, the flow can be steplessly changed.

More detailed information:

Data sheet 92714

Technical data

Size	Size		45	71	100	140
Displacement	$V_{g \max}$	cm ³	45	71	100	140
Speed	n_{nom}	min ⁻¹	1800	1800	1800	1800
Flow at n_{nom}	q_v	l/min	81	128	180	252
Torque $\Delta p = 280 \text{ bar}$	T	Nm	200	317	446	624

Axial piston variable displacement pump

A11VO series 1



- Size 40 ... 95
- Nominal pressure 350 bar
- Peak pressure 400 bar
- Open circuit

Features

- Predominantly designed for use in mobile applications
- Axial piston swash plate design
- At the through-drive, more pumps up to the same size can be attached
- Numerous adjustments
- Option: With charging pump

Product description

A11VO is a variable displacement pump with axial piston transmission in swash plate design for hydrostatic drives in the open circuit. The flow is proportional to the drive speed and the displacement. By adjusting the swash plate, the flow can be steplessly changed.

More detailed information:
Data sheet 92500

Technical data

Size	Size		40	60	75	95
Displacement	$V_{g\ max}$	cm ³	42	58.5	74	93.5
Speed	n_{nom}	min ⁻¹	3000	2700	2550	2350
Flow at n_{nom}	q_v	l/min	126	158	189	220
Torque $\Delta p = 350\ bar$	T	Nm	234	326	412	521

Axial piston variable displacement pump

A7VO series 63



- ▶ Size 28 ... 160
- ▶ Nominal pressure 350 bar
- ▶ Peak pressure 400 bar
- ▶ Open circuit

Features

- ▶ Axial tapered piston bent axis design
- ▶ Use in mobile and stationary fields of application
- ▶ Adjustment of the bent axis allows for stepless change in flow
- ▶ Wide range of control and adjustment devices
- ▶ Short, robust pump with long life cycle

Product description

A7VO is a variable displacement pump with axial tapered piston transmission in bent axis design for hydrostatic drives in the open circuit. The flow is proportional to the drive speed and the displacement. By adjusting the bent axis, the flow can be steplessly changed.

More detailed information:

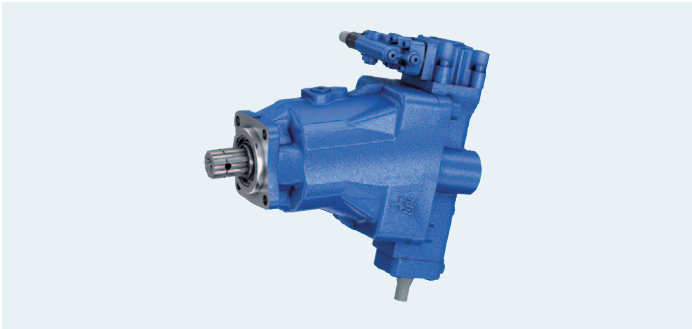
Data sheet 92202

Technical data

Size	Size		28	55	80	107	160
Displacement	$V_{g \max}$	cm ³	28.1	54.8	80	107	160
Speed	n_{nom}	min ⁻¹	3150	2500	2240	2150	1900
Flow at n_{nom}	q_v	l/min	89	137	179	230	304
Torque $\Delta p = 350 \text{ bar}$	T	Nm	156	305	446	596	891

Axial piston variable displacement pump

A17VO series 11



Features

- ▶ Axial piston bent axis design
- ▶ Flange and shaft for direct attachment at the ancillary output of commercial vehicles
- ▶ High self-priming ability
- ▶ High efficiency
- ▶ Very good noise level
- ▶ Option: Speed sensor

- ▶ Size 55 ... 107
- ▶ Nominal pressure 300 bar
- ▶ Peak pressure 350 bar
- ▶ Open circuit
- ▶ Application in commercial vehicles

Product description

A17VO is a variable displacement pump with axial tapered piston transmission in bent axis design for hydrostatic drives in the open circuit. The pump has been especially designed for demanding applications and comfortable controls in working equipment in commercial vehicles, e.g. HGV loading cranes, generator drives, compressor drives, drives for air conditioning units, fan drives. The flow is proportional to the drive speed and the displacement. By adjusting the bent axis, the flow can be steplessly changed.

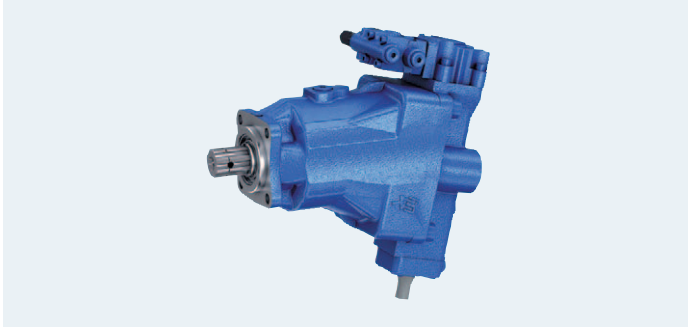
More detailed information:
Data sheet 92260

Technical data

Size	Size		55	80	107
Displacement	$V_{g\ max}$	cm ³	54.8	80	107
Speed	n_{nom}	min ⁻¹	2500	2240	2150
Flow at n_{nom}	q_v	l/min	137	179	230
Torque $\Delta p = 300\ bar$	T	Nm	262	382	511

Axial piston variable displacement pump

A18VO series 11



- ▶ Size 80 ... 107
- ▶ Nominal pressure 350 bar
- ▶ Peak pressure 400 bar
- ▶ Open circuit
- ▶ Application in commercial vehicles

Features

- ▶ Axial piston bent axis design
- ▶ Improved system efficiency due to higher pressure
- ▶ High power density due to high pressure level for high load-bearing capacity
- ▶ Flange and shaft for direct attachment at the ancillary output of commercial vehicles
- ▶ High self-priming ability
- ▶ Option: Longer life cycle due to the use of long-life bearings (A18VLO)

Product description

A18VO is a variable displacement pump with axial tapered piston transmission in bent axis design for hydrostatic drives in the open circuit. The pump has been especially designed for demanding applications and comfortable controls in working equipment in commercial vehicles, e.g. large HGV loading cranes and superstructures. The flow is proportional to the drive speed and the displacement. By adjusting the bent axis, the flow can be steplessly changed.

More detailed information:

Data sheet 92270

Technical data

Size	Size		80	107
Displacement	$V_{g \max}$	cm ³	80	107
Speed	n_{nom}	min ⁻¹	2240	2150
Flow at n_{nom}	q_v	l/min	179	230
Torque $\Delta p = 350 \text{ bar}$	T	Nm	446	596

External gear pump

AZPF



- ▶ Standard version
- ▶ Size 4 ... 28
- ▶ Series 1X and 2X
- ▶ Nominal pressure up to 280 bar
- ▶ Maximum displacement 28 cm³

Features

- ▶ Fixed displacement
- ▶ Plain bearings for high loads
- ▶ Drive shafts according to ISO or SAE
- ▶ Combinations of several pumps possible
- ▶ Line connections: Connection flanges or screw-in threads
- ▶ Numerous design variations available

Product description

External gear pumps basically consist of one gear wheel pair and the housing with one front and one rear cover. The drive shaft drives one of the two gear wheels which again drives the second gear wheel in the opposite direction. Due to the rotation, hydraulic fluid is entrapped in the gear chambers and delivered along the housing from the suction port to the pressure port. The flow per rotation roughly corresponds to the total of the gear chamber volumes of the two gears.

More detailed information:

Data sheet 10089

Technical data

Size – series 1X	Size		4	5	8	11	14	16	19	22	22 ¹⁾	
Displacement	V_g	cm ³	4	5.5	8	11	14	16	19	22.5	22.5	
Maximum continuous pressure	p_1	bar	250	250	250	250	250	250	210	180	210	
Intermittent pressure	p_2	bar	280	280	280	280	280	280	230	210	230	
Speed at p_2	n_{\min}	min ⁻¹	700	700	700	600	500	500	500	500	500	
	n_{\max}	min ⁻¹	4000	4000	4000	3500	3000	3000	3000	2500	3000	
Size – series 2X	Size		4	5	8	11	14	16	19	22	25	28
Displacement	V_g	cm ³	4	5.5	8	11	14	16	19	22.5	25	28
Maximum continuous pressure	p_1	bar	250	250	250	250	250	250	250	220	195	170
Intermittent pressure	p_2	bar	280	280	280	280	280	280	280	250	225	200
Speed at p_2	n_{\min}	min ⁻¹	700	700	700	600	500	500	500	500	500	500
	n_{\max}	min ⁻¹	4000	4000	4000	3500	3000	3000	3500	3500	3000	3000

¹⁾ Version with extended bearings

For order details regarding the GoTo products, see page 129.

Bosch Rexroth AG, RE 01500, 2014-05

External gear pump AZPN



- ▶ Standard version
- ▶ Size 20 ... 36
- ▶ Series 1X and 2X
- ▶ Nominal pressure up to 280 bar
- ▶ Maximum displacement 36 cm³

Features

- ▶ Fixed displacement
- ▶ Plain bearings for high loads
- ▶ Drive shafts according to ISO or SAE
- ▶ Combinations of several pumps possible
- ▶ Line connections: Connection flanges or screw-in threads
- ▶ Numerous design variations available

Product description

External gear pumps basically consist of one gear wheel pair and the housing with one front and one rear cover. The drive shaft drives one of the two gear wheels which again drives the second gear wheel in the opposite direction. Due to the rotation, hydraulic fluid is entrapped in the gear chambers and delivered along the housing from the suction port to the pressure port. The flow per rotation roughly corresponds to the total of the gear chamber volumes of the two gears.

More detailed information:

Data sheet 10091

Technical data

Size – series 1X	Size		20	22	25	28	32	36
Displacement	V_g	cm ³	20	22.5	25	28	32	36
Maximum continuous pressure	p_1	bar	230	230	230	210	180	160
Intermittent pressure	p_2	bar	250	250	250	230	200	180
Speed at p_2	n_{min}	min ⁻¹	500	500	500	500	500	500
	n_{max}	min ⁻¹	3000	3000	3000	2800	2800	2800
Size – series 2X	Size		20	22	25	28	32	36
Displacement	V_g	cm ³	20	22.5	25	28	32	36
Maximum continuous pressure	p_1	bar	250	250	250	230	210	180
Intermittent pressure	p_2	bar	280	280	280	260	240	210
Speed at p_2	n_{min}	min ⁻¹	500	500	500	500	500	500
	n_{max}	min ⁻¹	3500	3500	3500	3500	3200	3000

For order details regarding the GoTo products, see page 131.

RE 01500, 2014-05, **Bosch Rexroth AG**

External gear pump AZPG



- ▶ Standard version
- ▶ Size 22 ... 100
- ▶ Series 2X
- ▶ Nominal pressure up to 280 bar
- ▶ Maximum displacement volume 100 cm³

Features

- ▶ Fixed displacement
- ▶ Plain bearings for high loads
- ▶ Drive shafts according to ISO or SAE
- ▶ Combinations of several pumps possible
- ▶ Line connections: Connection flanges or screw-in threads
- ▶ Numerous design variations available

Product description

External gear pumps basically consist of one gear wheel pair and the housing with one front and one rear cover. The drive shaft drives one of the two gear wheels which again drives the second gear wheel in the opposite direction. Due to the rotation, hydraulic fluid is entrapped in the gear chambers and delivered along the housing from the suction port to the pressure port. The flow per rotation roughly corresponds to the total of the gear chamber volumes of the two gears.

More detailed information:
 Data sheet 10093

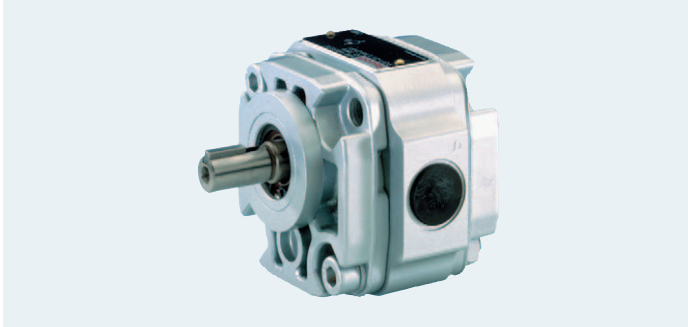
Technical data

Size	Size		22	25	28	32	36	40	45
Displacement	V_g	cm ³	22.5	25	28	32	36	40	45
Maximum continuous pressure	p_1	bar	250	250	250	250	250	250	250
Intermittent pressure	p_2	bar	280	280	280	280	280	280	280
Speed at p_2	n_{min}	min ⁻¹	600	600	500	500	500	500	500
	n_{max}	min ⁻¹	3000	3000	3000	2800	2800	2800	2600

Size	Size		50	56	63	70	80	100	
Displacement	V_g	cm ³	50	56	63	70	80	100	
Maximum continuous pressure	p_1	bar	220	195	170	120	90	70	
Intermittent pressure	p_2	bar	250	225	200	150	120	100	
Speed at p_2	n_{min}	min ⁻¹	500	500	500	500	600	800	
	n_{max}	min ⁻¹	2600	2300	2300	2200	2000	1700	

Internal gear pump

PGF



- ▶ Frame size 1: Size 1.7 ... 5 (component series 2X)
- ▶ Frame size 2: Size 6.3 ... 22 (component series 2X)
- ▶ Frame size 3: Size 20 ... 40 (component series 3X)
- ▶ Peak pressure 250 bar
- ▶ Maximum displacement volume 40.5 cm³

Features

- ▶ Fixed displacement
- ▶ Low operating noise
- ▶ Low flow pulsation
- ▶ Suitable for broad viscosity and speed ranges
- ▶ Very good suction characteristic
- ▶ Long life cycle due to plain bearings and sealing gap compensation

Product description

Hydraulic pumps of the PGF type are gap-compensated internal gear pumps with fixed displacement. The hydrodynamically mounted pinion shaft drives the toothed internal gear. The tooth clearances opening in the suction area suck in the hydraulic fluid and transport it away from the pinion shaft and internal gear. Suction and pressure area are separated by the radial compensation elements and the tooth engagement between internal gear and pinion shaft.

More detailed information:

Data sheet 10213

Technical data

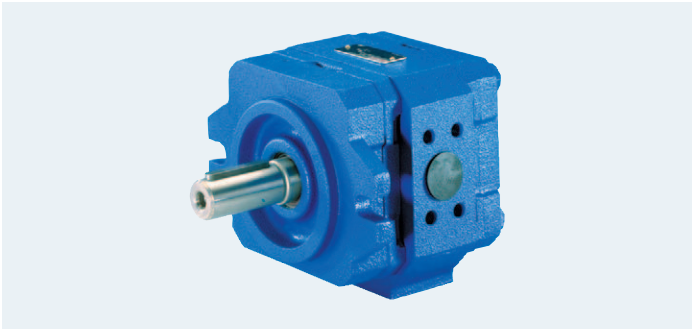
Size	Size		1.7	2.2	2.8	3.2	4.1	5.0	6.3	8	11
Displacement	V_g	cm ³	1.7	2.2	2.8	3.2	4.1	5.0	6.5	8.2	11
Speed	n_{min}	min ⁻¹	600	600	600	600	600	600	600	600	600
	n_{max}	min ⁻¹	3600	3600	3600	3600	3600	3600	3600	3600	3600
Flow	q_v	l/min	2.4	3.2	4.1	4.6	6.0	7.2	9.4	11.9	16
Nominal pressure, permanent	p_N	bar	180	210	210	210	210	180	210	210	210

Size	Size		13	16	19	22	20	25	32	40
Displacement	V_g	cm ³	13.3	16	18.9	22	20.6	25.4	32.5	40.5
Speed	n_{min}	min ⁻¹	600	600	600	600	500	500	500	500
	n_{max}	min ⁻¹	3600	3600	3600	3000	3600	3200	3000	2500
Flow	q_v	l/min	19.3	23.3	27.4	31.9	29.9	36.8	47.1	58.7
Nominal pressure, permanent	p_N	bar	210	210	210	180	210	210	210	180

For order details regarding the GoTo products, see page 131.

RE 01500, 2014-05, Bosch Rexroth AG

Internal gear pump PGH-2X



Features

- ▶ Fixed displacement
- ▶ Low operating noise
- ▶ Low flow pulsation
- ▶ High efficiency also at low speed and viscosity due to sealing gap compensation
- ▶ Suitable for broad viscosity and speed ranges

- ▶ Frame size 2: Size 5 ... 8
- ▶ Frame size 3: Size 11 ... 16
- ▶ Peak pressure 350 bar
- ▶ Maximum displacement 16 cm³
- ▶ Component series 2X

Product description

Hydraulic pumps of the PGH type are gap-compensated internal gear pumps with fixed displacement. The hydrodynamically mounted pinion shaft drives the toothed internal gear. The tooth clearances opening in the suction area suck in the hydraulic fluid and transport it away from the pinion shaft and internal gear. Suction and pressure area are separated by the radial compensation elements and the tooth engagement between internal gear and pinion shaft.

More detailed information:
Data sheet 10223

Technical data

Size	Size		5	6	8	11	13	16
Displacement	V_g	cm³	5.24	6.5	8.2	11.0	13.3	16.0
Speed	n_{min}	min⁻¹	600	600	600	600	600	600
	n_{max}	min⁻¹	3000	3000	3000	3000	3000	3000
Flow	q_v	l/min	7.5	9.3	11.8	15.8	19.1	23.0
Nominal pressure, permanent	p_N	bar	315	315	315	315	315	315

Internal gear pump

PGH-3X



- ▶ Frame size 4: Size 20 ... 50
- ▶ Frame size 5: Size 63 ... 250
- ▶ Peak pressure 350 bar
- ▶ Maximum displacement 250 cm³
- ▶ Component series 3X

Features

- ▶ Fixed displacement
- ▶ Low operating noise
- ▶ Low flow pulsation
- ▶ High efficiency also at low speed and viscosity due to sealing gap compensation
- ▶ Suitable for broad viscosity and speed ranges
- ▶ Suitable for operation with HFC fluid

Product description

Hydraulic pumps of the PGH type are gap-compensated internal gear pumps with fixed displacement. The hydrodynamically mounted pinion shaft drives the toothed internal gear. The tooth clearances opening in the suction area suck in the hydraulic fluid and transport it away from the pinion shaft and internal gear. Suction and pressure area are separated by the radial compensation elements and the tooth engagement between internal gear and pinion shaft.

More detailed information:

Data sheet 10227

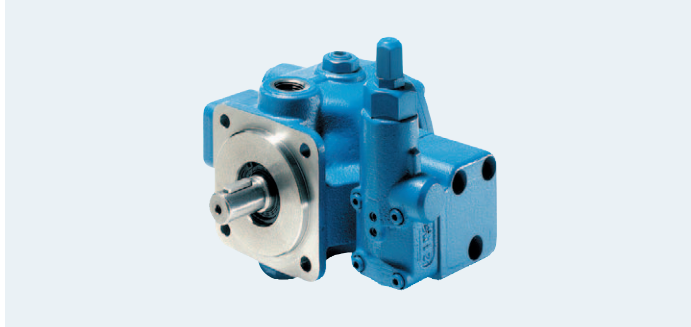
Technical data

Size	Size		20	25	32	40	50	63
Displacement	V_g	cm ³	20.1	25.3	32.7	40.1	50.7	64.7
Speed	n_{min}	min ⁻¹	200	200	200	200	200	200
	n_{max}	min ⁻¹	3000	3000	3000	3000	3000	3000
Flow	q_v	l/min	28.9	36.3	46.9	57.6	72.8	92.8
Nominal pressure, permanent	p_N	bar	315	315	315	315	250	315
Size	Size		80	100	125	160	200	250
Displacement	V_g	cm ³	81.4	100.2	125.3	162.8	200.4	250.5
Speed	n_{min}	min ⁻¹	200	200	200	200	200	200
	n_{max}	min ⁻¹	3000	3000	3000	3000	3000	3000
Flow	q_v	l/min	116.9	143.8	179.8	233.7	287.7	359.6
Nominal pressure, permanent	p_N	bar	315	315	315	210	170	135

For order details regarding the GoTo products, see page 132.

RE 01500, 2014-05, Bosch Rexroth AG

Adjustable vane pump, pilot operated PV7



- ▶ Size 14 ... 150
- ▶ Frame sizes 10, 16, 25, 40, 63 and 100
- ▶ Nominal pressure up to 160 bar
- ▶ Maximum flow 270 l/min
- ▶ Component series 1X

Features

- ▶ Low operating noise
- ▶ Extended bearing life cycle thanks to hydrodynamically lubricated plain bearings
- ▶ Pressure and flow can be controlled
- ▶ Low hysteresis
- ▶ Very short control up and control down times
- ▶ Suitable for HETG and HEES media

Product description

Hydraulic pumps of type PV7 are vane pumps with adjustable displacement with medium operating pressure for application in machine tool and packaging machine construction. The PV7 distinguishes itself by its long life cycle and excellent control quality as required in industrial applications.

More detailed information:

Data sheet 10515

Technical data

Frame size-size			10-14	10-20	16-20	16-30	25-30	25-45
Displacement	V_g	cm ³	14	20	20	30	30	45
Speed	n_{min}	min ⁻¹	900	900	900	900	900	900
	n_{max}	min ⁻¹	1800	1800	1800	1800	1800	1800
Flow	q_v	l/min	21	29	29	43.5	43.5	66
Nominal pressure, permanent	p_N	bar	160	100	160	80	160	80
Frame size-size			40-45	40-71	63-71	63-94	100-118	100-150
Displacement	V_g	cm ³	45	71	71	94	118	150
Speed	n_{min}	min ⁻¹	900	900	900	900	900	900
	n_{max}	min ⁻¹	1800	1800	1800	1800	1800	1800
Flow	q_v	l/min	66	104	108	136	171	218
Nominal pressure, permanent	p_N	bar	160	80	160	80	160	80

For order details regarding the GoTo products, see page 132.

Bosch Rexroth AG, RE 01500, 2014-05

Radial piston pump

PR4-Mini



- ▶ Size 0.40 ... 2.00
- ▶ Maximum operating pressure 700 bar
- ▶ Maximum displacement 2.00 cm³
- ▶ Component series 1X

Features

- ▶ Fixed displacement
- ▶ Self-priming
- ▶ Long life cycle thanks to hydrodynamically lubricated plain bearings
- ▶ Very compact design
- ▶ Combination possibility with internal gear pumps and vane pumps

Product description

Hydraulic pumps of type PR4 are valve-controlled, self-priming radial piston pumps with constant displacement. The pistons are arranged radially to the eccentric shaft. In downward movements of the piston, the working space in the cylinder is enlarged. The resulting underpressure opens the suction valve. This establishes the connection from the suction chamber to the working space. In upward movements of the piston, the suction valve is closed and the pressure valve is opened. The hydraulic fluid now flows to the system via the pressure connection.

More detailed information:

Data sheet 11260

Technical data

Size	Size		0.40	0.63	1.00	1.60	2.00
Displacement	V_g	cm ³	0.40	0.63	1.00	1.60	2.00
Speed	n_{min}	min ⁻¹	1000	1000	1000	1000	1000
	n_{max}	min ⁻¹	3400	3000	2000	2000	2000
Flow	q_v	l/min	1.36	1.89	2	3.2	4
Operating pressure, maximum	p_N	bar	700	700	450	250	175

Radial piston pump

PR4



- ▶ Size 1.60 ... 20.00
- ▶ Maximum operating pressure 700 bar
- ▶ Maximum displacement 19.43 cm³
- ▶ Component series 3X

Features

- ▶ Fixed displacement
- ▶ Self-priming
- ▶ Favorable grading of the 14 sizes for perfect device design
- ▶ Long life cycle thanks to hydrodynamically lubricated plain bearings
- ▶ Optionally in the standard delivery range: Several pressure ports with different cylinder combinations

Product description

Hydraulic pumps of type PR4 are valve-controlled, self-priming radial piston pumps with constant displacement. The pistons are arranged radially to the eccentric shaft. In downward movements of the piston, the working space in the cylinder is enlarged. The resulting underpressure opens the suction valve. This establishes the connection from the suction chamber to the working space. In upward movements of the piston, the suction valve is closed and the pressure valve is opened. The hydraulic fluid now flows to the system via the pressure connection.

More detailed information:

Data sheet 11263

Technical data

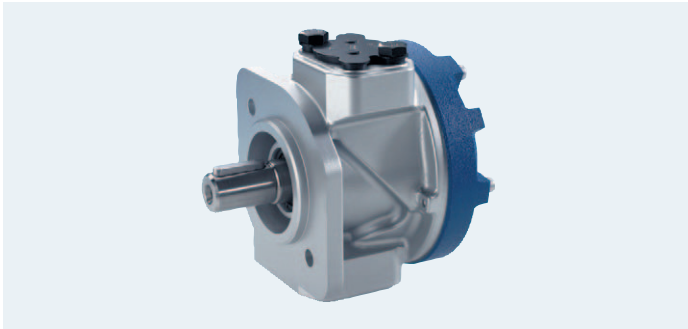
Size	Size		1.60-700	2.00-700	2.50-700	3.15-500	4.00-700	5.00-500
Displacement	V_g	cm ³	1.51	2.14	2.59	3.39	4.32	4.82
Speed	n_{min}	min ⁻¹	1000	1000	1000	1000	1000	1000
	n_{max}	min ⁻¹	2000	2000	2000	2000	2000	2000
Flow	q_v	l/min	3.02	4.28	5.18	6.78	8.64	9.64
Operating pressure, maximum	p_N	bar	700	700	700	500	700	500

Size	Size		6.30-500	8.00-500	10.00-500	16.00-500	20.00-500
Displacement	V_g	cm ³	5.83	8.03	9.71	16.07	19.43
Speed	n_{min}	min ⁻¹	1000	1000	1000	1000	1000
	n_{max}	min ⁻¹	2000	2000	2000	2000	2000
Flow	q_v	l/min	11.66	16.06	19.42	32.14	38.86
Operating pressure, maximum	p_N	bar	500	500	500	500	500

For order details regarding the GoTo products, see page 132.

Bosch Rexroth AG, RE 01500, 2014-05

Gerotor pump PGZ



- ▶ Frame size 4: Size 20 ... 80
- ▶ Frame size 5: Size 63 ... 140
- ▶ Nominal pressure 15 bar
- ▶ Maximum displacement 140 cm³
- ▶ Component series 1X

Features

- ▶ Low-pressure pump with fixed displacement
- ▶ Very low operating noise
- ▶ Suitable for broad viscosity and speed ranges
- ▶ Very good suction behavior
- ▶ Flexible combination possibility with Rexroth axial piston, internal gear and vane pumps
- ▶ Application in cooling, filter or lubricant circuits with low pressures

Product description

Hydraulic pumps of type PGZ are gerotor pumps with constant displacement. The shaft drives the inner rotor. The inner rotor also rotates the outer rotor. The tooth clearances opening in the suction area suck in the hydraulic fluid. The separation of suction and pressure area is implemented on the opposite side of the meshing area by means of a radial gap created by the tooth profile of the outer and the inner rotor sliding against each other. Within the pressure area, the hydraulic fluid is displaced into the pressure port by means of the chambers becoming smaller.

More detailed information:

Data sheet 10545

Technical data

Size PGZ4	Size		20	32	40	50	63	80
Displacement	V_g	cm ³	21	33.4	42.1	52	64.4	84.2
Speed	n_{min}	min ⁻¹	200	200	200	200	200	200
	n_{max}	min ⁻¹	3000	3000	3000	3000	2300	1800
Flow (n = 1450 min ⁻¹)	q_v	l/min	28	46	58	71	88	116
Nominal pressure, permanent	p_N	bar	15	15	15	15	15	15
Size PGZ5	Size		100	140				
Displacement	V_g	cm ³	105.3	136.3				
Speed	n_{min}	min ⁻¹	200	200				
	n_{max}	min ⁻¹	1800	1500				
Flow (n = 1450 min ⁻¹)	q_v	l/min	144	186				
Nominal pressure, permanent	p_N	bar	15	15				

For order details regarding the GoTo products, see page 132.

RE 01500, 2014-05, Bosch Rexroth AG

Motors

Axial piston motors

Axial piston motors are available in swash plate or bent axis design for medium- and high-pressure applications. Our hydrostatic drives for mobile and stationary application ranges stand out due to their robustness, reliability, long life cycles, low noise emissions and high efficiencies as well as high cost-effectiveness.

External gear motors

External gear motors are a cost-effective alternative for rotary drives up to approximately 50 kW. The motors are available for one direction of rotation or reversible, for 2- and 4-quadrant operation.



Axial piston fixed displacement motor

A2FM series 6



Features

- Use in mobile and stationary fields of application
- Axial tapered piston bent axis design
- High power density
- Small dimensions
- High overall efficiency
- Good start-up efficiency

- Size 5 ... 200
- Nominal pressure: 315 bar (size 5), 400 bar (size 10-200)
- Peak pressure: 350 bar (size 5), 450 bar (size 10-200)
- Open and closed circuit

Product description

A2FM is a constant motor with axial tapered piston transmission in bent axis design for hydrostatic drives in the open and closed circuit. With axial piston units in bent axis design, the pistons are arranged diagonally to the drive shaft. The pistons are directly supported by the drive shaft and there create a pressure-dependent torque.

More detailed information:
 Data sheet 91001

Technical data

Size		Size	5	10	12	16	23	28	32	45	56
Displacement	V_g	cm ³	4.93	10.3	12	16	22.9	28.1	32	45.6	56.1
Speed	n_{nom}	min ⁻¹	10000	8000	8000	8000	6300	6300	6300	5600	5000
Displacement at n_{nom}	q_v	l/min	49	82	96	128	144	177	202	255	281
Torque	$\Delta p = 315 \text{ bar}$	T	Nm	24.7	–	–	–	–	–	–	–
	$\Delta p = 400 \text{ bar}$	T	Nm	–	66	76	102	146	179	204	357

Size		Size	63	80	90	107	125	160	180	200	
Displacement	V_g	cm ³	63	80.4	90	106.7	125	160.4	180	200	
Speed	n_{nom}	min ⁻¹	5000	4500	4500	4000	4000	3600	3600	2750	
Displacement at n_{nom}	q_v	l/min	315	362	405	427	500	577	648	550	
Torque	$\Delta p = 400 \text{ bar}$	T	Nm	401	512	573	679	796	1021	1146	1273

External gear motor AZMF



- ▶ Size 8 ... 22
- ▶ Series 1X
- ▶ Nominal pressure up to 280 bar
- ▶ Maximum displacement 22.5 cm³

Features

- ▶ Constant displacement
- ▶ Motors for one direction of rotation
- ▶ Reversible motors for 2- and 4-quadrant operation
- ▶ Plain bearings for high loads
- ▶ Output shafts according to ISO or SAE
- ▶ Option: With integrated speed sensor

Product description

With external gear motors, you distinguish between motors for one direction of rotation and reversible motors. External gear motors for one direction of rotation are set up asymmetrically, i.e. high- and low-pressure side are fixed. The reversible motors are a particularity: their high- and low-pressure chambers are separated from the bearing and shaft seal ring chamber. The leakage incurring here is discharged via a separate leakage connection.

More detailed information:

Data sheet 14026

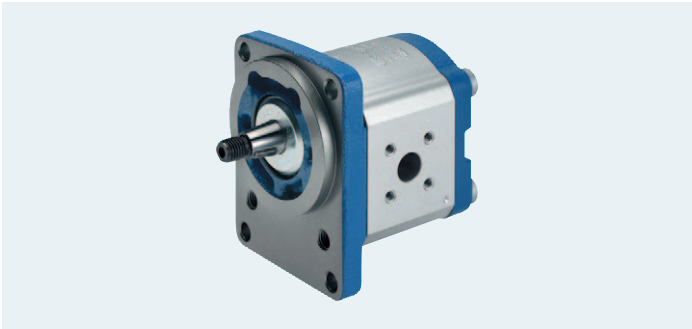
Technical data

Size	Size		8	11	14	16	19	22
Displacement	V_g	cm ³	8	11	14	16	19	22.5
Maximum continuous pressure	p_1	bar	250	250	250	250	180	180
Maximum start-up pressure	p_2	bar	280	280	280	280	210	210
Speed at p_1	n_{min}	min ⁻¹	700	600	500	500	500	500
	n_{max}	min ⁻¹	4000	3500	3000	3000	3000	3000

For order details regarding the GoTo products, see page 134.

RE 01500, 2014-05, **Bosch Rexroth AG**

External gear motor AZMN



- ▶ Size 20 ... 36
- ▶ Series 1X and 2X
- ▶ Nominal pressure up to 280 bar
- ▶ Maximum displacement 36 cm³

Features

- ▶ Constant displacement
- ▶ Motors for one direction of rotation
- ▶ Reversible motors for 2- and 4-quadrant operation
- ▶ Plain bearings for high loads
- ▶ Output shafts according to ISO or SAE
- ▶ Option: With integrated speed sensor

Product description

With external gear motors, you distinguish between motors for one direction of rotation and reversible motors. External gear motors for one direction of rotation are set up asymmetrically, i.e. high- and low-pressure side are fixed. The reversible motors are a particularity: Their high- and low-pressure chambers are separated from the bearing and shaft seal ring chamber. The leakage incurring here is discharged via a separate leakage connection.

More detailed information:
Data sheet 14026

Technical data

Size	Size		20	22	25	28	32	36
Displacement	V_g	cm ³	20	22.5	25	28	32	36
Maximum continuous pressure	p_1	bar	250	210	210	210	180	160
Maximum start-up pressure	p_2	bar	280	240	240	240	210	190
Speed at p_1	n_{min}	min ⁻¹	500	500	500	500	500	500
	n_{max}	min ⁻¹	3000	3000	3000	3000	3000	3000