Rexroth
Bosch Group

External Gear Pumps
Series T

AZPT-...

Fixed pumps
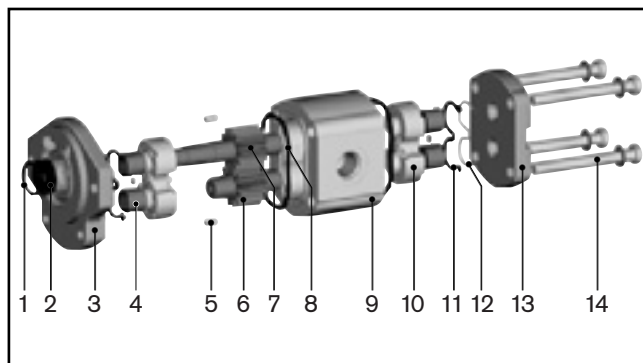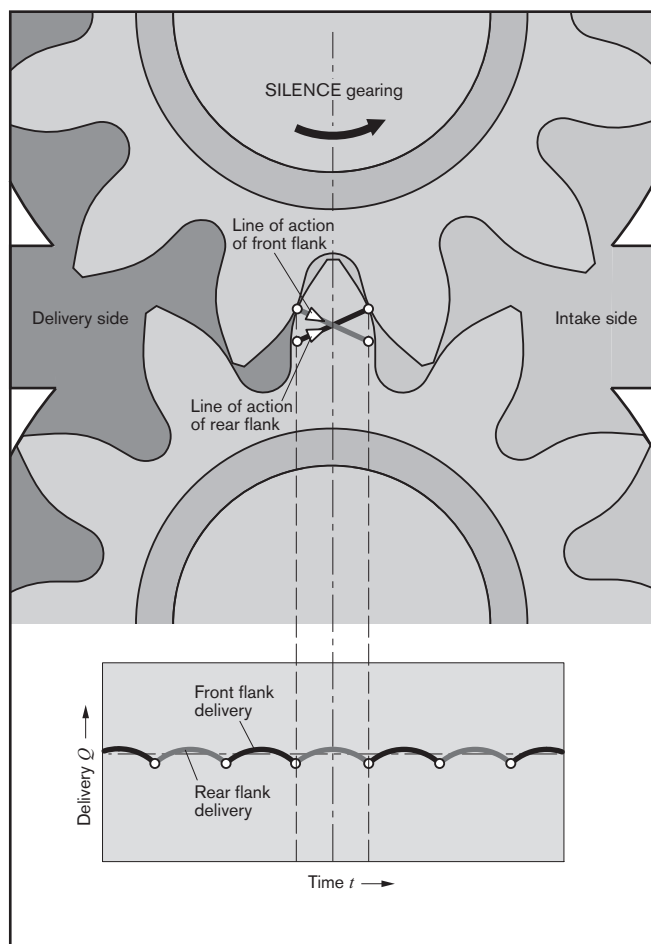$V = 20...36$ cm³/rev

SILENCE

Overview of contents

Features
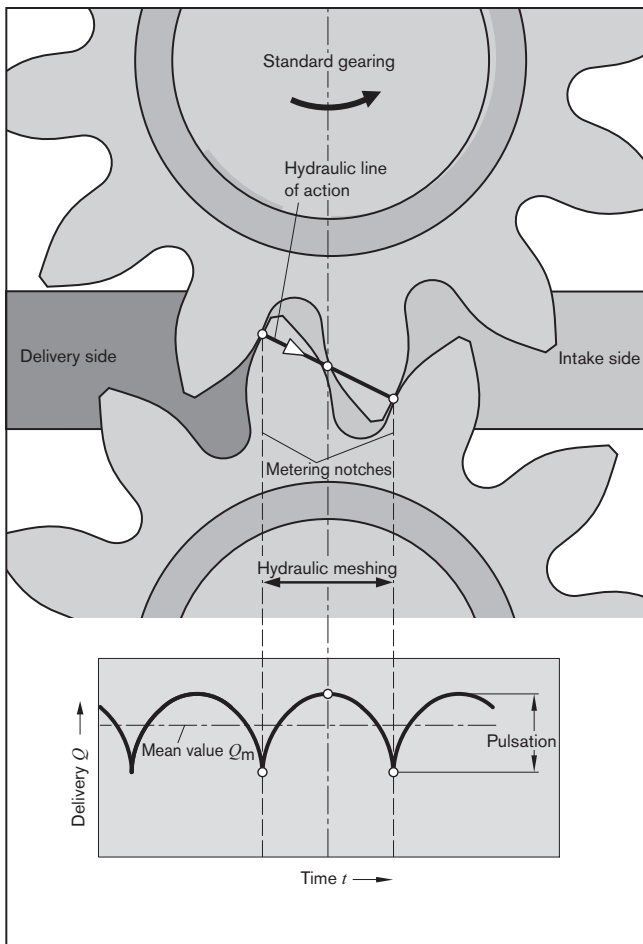
– Nominal pressure 280 bar
– Slide bearings for heavy duty applications
– Drive shafts to ISO or SAE
– Combination of several pumps possible
– Line ports:
  connection flange or screw thread
– Optimized pressure pulsation with reduced noise emissions
  and vibration excitation in the system
– Consistent high quality
– Considerably longer service life due to reinforced shaft and
  case

General

The key task of external gear units is to convert mechanical energy (torque and rotational speed) into hydraulic energy (flow and pressure). In external gear motors this is the other way round. These machines are required to be highly efficient in order to avoid unnecessary heat. This efficiency is achieved by means of precision production engineering and pressure-sensitive gap sealing.

Moreover, in the low-noise SILENCE pumps, the dual-flank principle helps to reduce flow pulsation by up to 75 %.
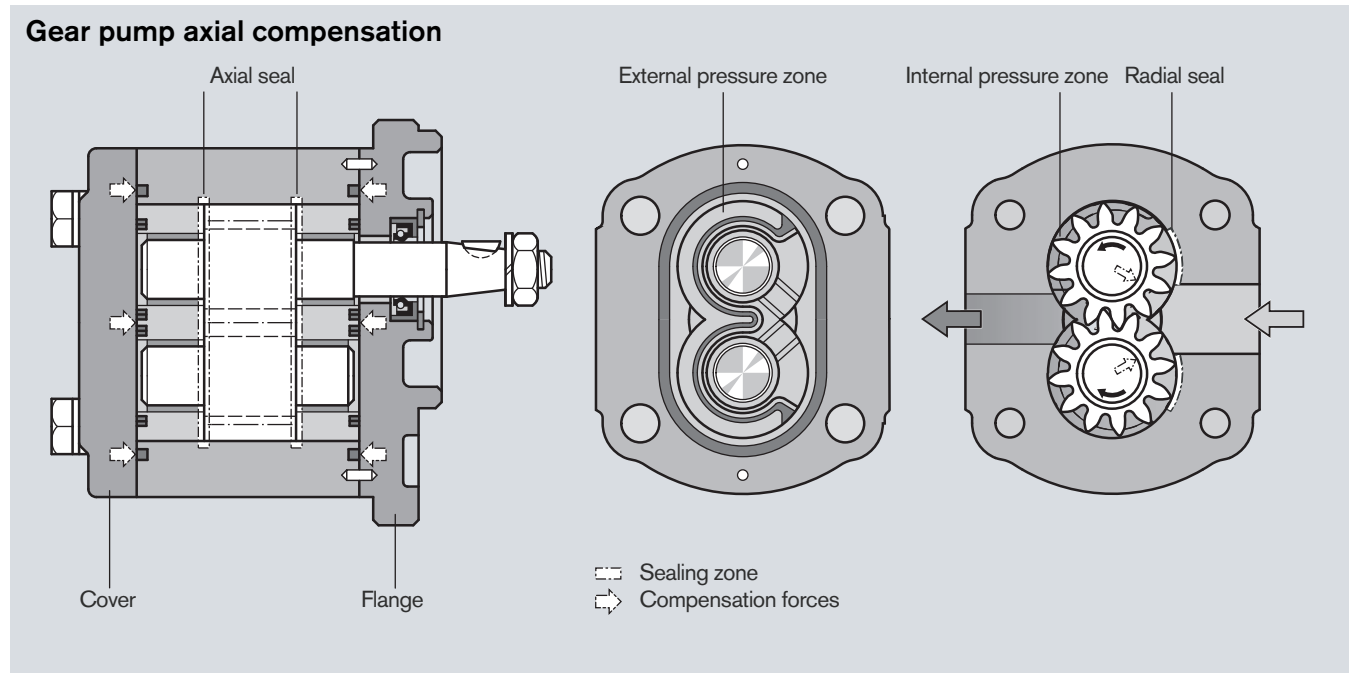
The displacement method

1	Retaining ring
2	Shaft seal ring
3	Front cover
4	Slide bearing
5	Centering pin
6	Gear
7	Gear (frictional)
8	Case seal
9	Pump case
10	Bearing
11	Axial zone seal
12	Support
13	End cover
14	Fixing screws

The geometry of the displacement gearing, matched in form by the rotation of the drive shaft, results in the parabolic flow characteristic shown here on the left. In a standard pump, this characteristic is repeated each time a gear tooth meshes. With their dual-flank system, the flow pulsation of SILENCE pumps is reduced by 75 % – with correspondingly lower excitation of downstream system components – at double the fundamental frequency. During this process, the gear pair exhibits an extremely reduced rear flank backlash, so that hydraulic sealing is provided not just by the front flank of the driven gear, but also by the rear flanks. In this way, the front and rear flanks alternately contribute to flow displacement. And by adapting the shape of the metering notches, the expansion of the hydraulic line of action is half that of the standard pump.
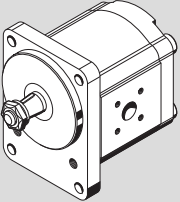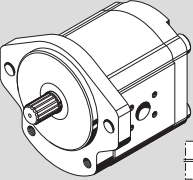
Construction

The external gear pump consists essentially of a pair of gears supported in bearing bushings or bearing, dependent on the series, and the case with a front and a rear cover. The drive shaft protrudes from the front cover where it is sealed by the shaft seal ring. The bearing forces are absorbed by special bearing bushings with sufficient elasticity to produce surface contact instead of line contact. They also ensure excellent resistance to galling – especially at low speed. The gears have 12 teeth. This keeps both flow pulsation and noise emission to a minimum.

The internal sealing is achieved by forces which are proportional to delivery pressure. This ensures optimum efficiency. The bearings provide the seal at the ends of the gaps between the teeth which carry the pressurized oil. The sealing zone between the gear teeth and the bearings is controlled by the admission of operating pressure to the rear of the bearing bushings. Special seals form the boundary of the zone. The radial clearance at the tips of the gear teeth is sealed by internal forces pushing them against the case.

Gear pump axial compensation

Axial seal   External pressure zone   Internal pressure zone   Radial seal

Cover   Flange

Sealing zone
Compensation forces

Overview of "Series T" standard types

Version	Page
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Version	Page
	17

Ordering code

External gear units Single pumps "SILENCE"

AZ	P	T	–	x	x	–	020	R	C	B	20	M	B	18009	S xxxx

Special design

Function
P = Pump

Series
2 = Case width 110 mm

Version
2 = Chromatized, pinned

Size T
020 = 20.0 cm³/rev
022 = 22.5 cm³/rev
025 = 25.0 cm³/rev
028 = 28.0 cm³/rev
032 = 32.0 cm³/rev
036 = 36.0 cm³/rev

Direction of rotation
R = Clockwise
L = Counter-clockwise

Valve adjustment
200 xx = PRV 200 bar
xxx 11 = FCV 11 l/min
18009 = PRV + FCV
180 bar, 9 l/min

Rear cover
B = Standard
E = FCV residual flow external
S = FCV residual flow internal
V = PRV + FCV

Seals
M = NBR
K = NBR, SSR in FKM

Drive shafts

		Suitable front cover	
C	Tapered key shaft 1 : 5		**B**
N	Dihedral claw		**M**
D	Splined shaft SAE J 744 22-4 13T		**C**
P	Splined shaft SAE J 744 19-4 11T		**C**

Front cover

B	Square flange Centering Ø 100 mm	
C	SAE J 744 101-2 B 2-bolt flange Ø 101.6 mm	
M	2-bolt mounting Centering Ø 52 mm with seal ring	

Line ports

07	Square flange SAE Thread, metric	
20	Rectangular flange	

Not all variants can be selected by using ordering code!
Please select the required pump by using the selection tables (standard types) or after consultation with Bosch Rexroth!
Special options are possible upon request.

Ordering code

External gear units Multiple pumps "SILENCE"

AZ	P	TTSS	–	x	x	–	032/022/016/005	R	C	B	20 20 20 20	K	B

Function
P = Pump

Series
B = 1.0...7.1 cm³/rev
S = 4.0...28 cm³/rev
F = 4.0...28 cm³/rev
T = 20.0...36 cm³/rev
N = 20.0...36 cm³/rev
U = 22.5...63 cm³/rev
G = 22.5...63 cm³/rev

Series, relates to pump section 1
2 = Case width 110 mm

Version, relates to pump section 1
2 = Chromatized, pinned

Size
corresponding to each series

Direction of rotation
R = Clockwise
L = Counter-clockwise

Rear cover
relates to last pump section
B = Standard

Seals
M = NBR
K = NBR, SSR in FKM
Shaft seal relate to pump section 1

Drive shafts relates to pump part 1			**Front cover** relates to pump part 1		**Line ports** every pump parts	
Series B:		Suitable front cover				
H	Tapered key shaft 1 : 8	O	O	Square flange Centering Ø 25.38 mm	02	Thread, metric DIN 3852 T1
Series F, S:						
C	Tapered key shaft 1 : 5	B	B	Square flange Centering Ø 80 mm	20	Rectangular flange
H	Tapered key shaft 1 : 8	O	O	Square flange Centering Ø 36.47 mm		
R	Splined shaft SAE J 744 16-4 9T	R	R	SAE J 744 82-2 A Centering Ø 82.55 mm 2-bolt mounting		
Series N, T:						
C	Tapered key shaft 1 : 5	B	B	Square flange Centering Ø 100 mm	07	Square flange SAE Thread, metric
D	Splined shaft SAE J 744 22-4 13T	C	C	SAE J 744 101-2 B Centering Ø 101.6 mm 2-bolt mounting	20	Rectangular flange
N	Dihedral claw	M	M	Centering Ø 52 mm with seal ring		
Series G, U:						
C	Tapered key shaft 1 : 5	B	B	Square flange Centering Ø 105 mm	07	Square flange SAE Thread, metric
D	Splined shaft SAE J 744 22-4 13T	C	C	SAE J 744 101-2 B Centering Ø 101.6 mm 2-bolt mounting	20	Rectangular flange
H	Tapered key shaft 1 : 8	O	O	Square flange Centering Ø 50.78 mm		

Not all variants can be selected by using ordering code!
Please select the required pump by using the selection tables (standard types) or after consultation with Bosch Rexroth!
Special options are possible upon request.

Drive shafts

C

45.5$^{\pm0.6}$
9$^{\pm0.2}$
20
2
1:5

⌀ DIN 128-A14-FSt
4x6.5 DIN 6888
5°42'38" 1'
⌀22
M14x1.5-m-06

N

8.8$^{\pm0.3}$
2.7$^{\pm0.5}$
⌀21.8$^{\pm0.084}$
8$^{-0.025}_{-0.083}$

Pump without shaft seal

D

31
9.5$^{\pm0.1}$
⌀21.806$_{-0.127}$
⌀22$^{-0.020}_{-0.072}$

Min. 20.1
usable shaft
length

ANSI B 92.1
13T 16/32 DP
30° pressure angle

P

41$^{\pm0.4}$
9.5$^{\pm0.1}$
⌀21.806$_{-0.127}$
⌀22$_{-0.1}$

Min. 23 usable
shaft length

Splined shaft
SAE J 744 19-4 11T

Front cover

B

9$^{\pm0.2}$
⌀100$_{-0.054}$
18.75$^{\pm1}$
⌀22$^{\pm0.5}$
12.5$^{\pm1.5}$

11$^{\pm0.135}$
R 10$^{\pm0.5}$
44.2$^{\pm0.1}$
132$^{\pm0.2}$
55$^{\pm1.5}$
153$^{\pm1.5}$
88.4$^{\pm0.2}$
110$^{\pm1.5}$

C

13.2$^{\pm1}$
12.5$^{\pm0.1}$
9.5$^{\pm0.1}$
max. 3
⌀101.6$_{-0.05}$
⌀51
⌀24

"X"

SAE - B
"X"
R 60$^{\pm1.1}$
14.3$^{+0.27}$
42$^{\pm2}$
146$^{\pm0.15}$
174$^{\pm1.3}$

Front cover (continued)

Pump without shaft seal

2xM10 – 10.9

Line ports

07 Square flange SAE, thread, metric

Ordering code	Size	Pressure side				Suction side			
		C	D	E	F	C	D	E	F
07	20 cm³	18	47.6	M10	22.2	25	47.6	M10	22.2
	22.5...36 cm³			depth 14			52.4	depth 14	26.2
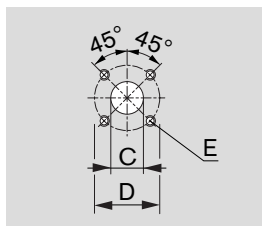
20 Rectangular flange

Ordering code	Size	Pressure side			Suction side		
		C	D	E	C	D	E
20	20...36 cm³	18	55	M8	26	55	M8
				depth 13			depth 13

Gear pumps with integral valves

In order to reduce external pipework it is possible to incorporate a flow-control valve or pressure-relief valve in the rear cover of the gear pump. A typical application of this is in the supply of hydraulic oil in power steering systems. The pump delivers a constant flow irrespective of the speed at which it is driven. The excess flow is either returned internally to the suction port or distributed externally to other items of equipment.

Upon request
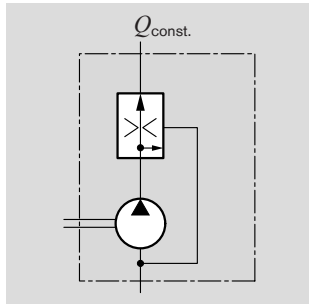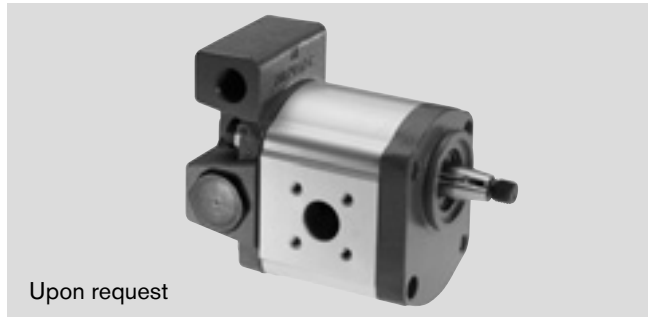
3-way flow-control valve.
Excess flow returned to suction line
$Q_{const.} = 2...30$ l/min
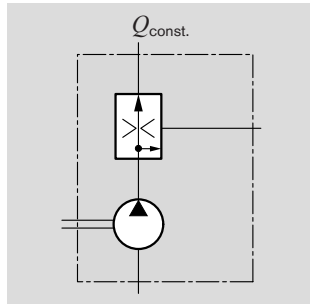
3-way flow-control valve.
Excess flow distributed externally; loadable
$Q_{const.} = 2...30$ l/min
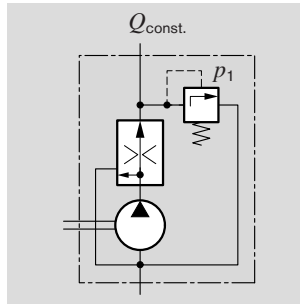
3-way flow-control valve with pressure-relief valve.
Excess flow returned to suction line
$Q_{const.} = 2...30$ l/min
$p_1 = 100...180$ bar
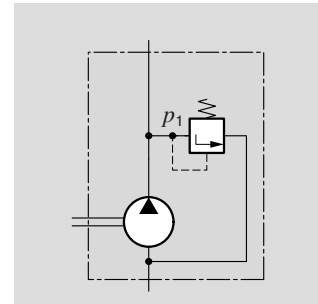
Pressure-relief valve.
Discharge returned to suction line
$p_1 = 5...250$ bar

Ordering code

S	xxx17

E	xxx12

V	15011

Design calculations for pumps

The design calculations for pumps are based on the following parameters:

V	[cm³/rev]	Displacement
Q	[l/min]	Delivery
p	[bar]	Pressure
M	[Nm]	Drive torque
n	[rev/min]	Drive speed
P	[kW]	Drive power

It is also necessary to allow for different efficiencies such as:

η_v	Volumetric efficiency
η_{hm}	Hydraulic-mechanical efficiency
η_t	Overall efficiency

The following formulas describe the various relationships.
They include correction factors for adapting the parameters to the usual units encountered in practice.

Caution: Diagrams providing approximate selection data will be found on subsequent pages.

$$Q = V \cdot n \cdot \eta_v \cdot 10^{-5}$$

$$p = \frac{M \cdot \eta_{hm}}{1.59 \cdot V}$$

$$P = \frac{p \cdot Q}{6 \cdot \eta_t}$$

$$V = \frac{Q}{n \cdot \eta_v} \cdot 10^5$$

$$V = \frac{M \cdot \eta_{hm}}{159 \cdot p}$$

$$Q = \frac{6 \cdot P \cdot \eta_t}{p}$$

$$n = \frac{Q}{V \cdot \eta_v} \cdot 10^5$$

$$M = \frac{1.59 \cdot V \cdot p}{\eta_{hm}}$$

$$p = \frac{6 \cdot P \cdot \eta_t}{Q}$$

$n \longrightarrow \eta_v \longrightarrow Q$
$M \longrightarrow \eta_{hm} \longrightarrow p$
$P \longrightarrow \eta_t \longrightarrow p \cdot Q$

V [cm³/rev] Q [l/min] p [bar]

n [rev/min] P [kW] M [Nm]

Caution: η [%] e.g. 95 [%]

Performance charts

$\nu = 35 \text{ mm}^2/\text{s}, \vartheta = 50\,°\text{C}$

$Q = f\,(n, V)$ incl. η_v
$P = f\,(n, p)$ —— incl. η_t
$M = f\,(n, p)$ – – – incl. η_{hm}

$V = 20 \text{ cm}^3/^U_{\text{rev}}$

$V = 22.5 \text{ cm}^3/^U_{\text{rev}}$
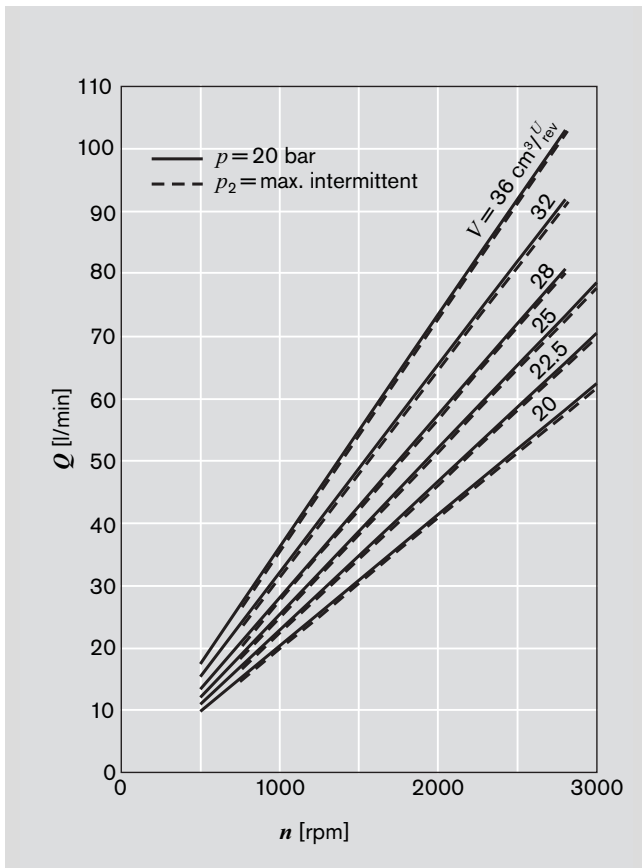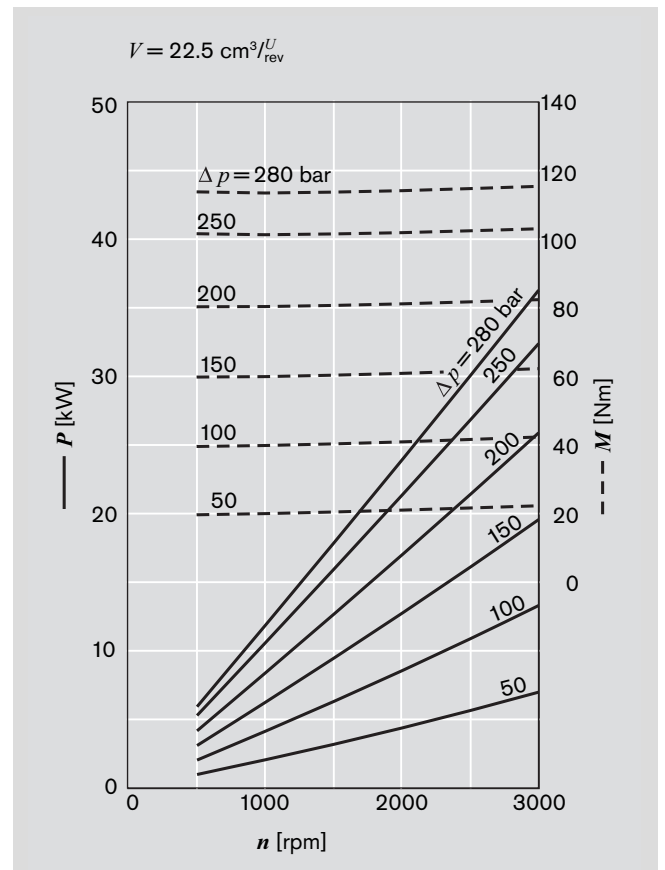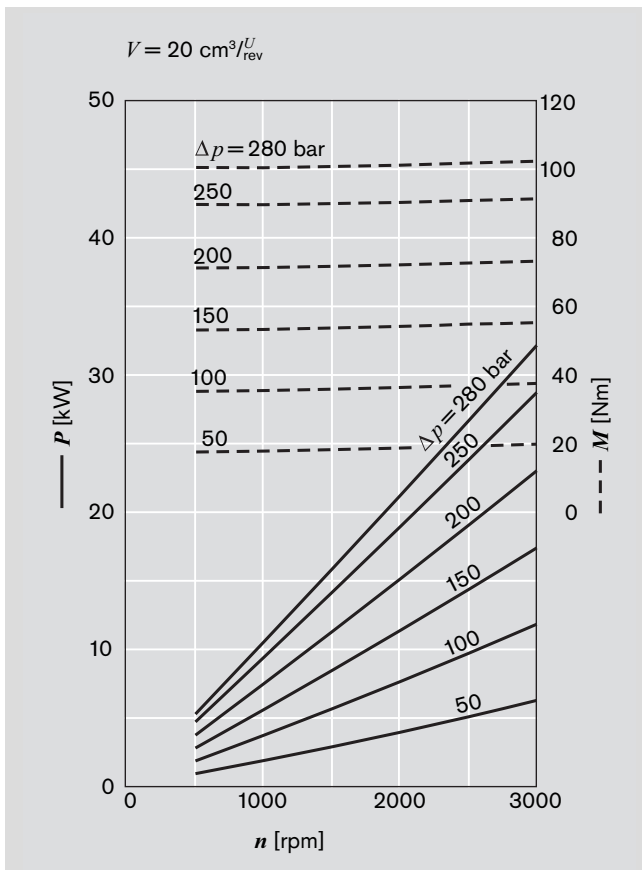
$\nu = 35 \text{ mm}^2/\text{s}, \vartheta = 50\,°\text{C}$

Performance charts (continued)

$V = 25$ cm³/$_{rev}^{U}$

$V = 28$ cm³/$_{rev}^{U}$

$V = 32$ cm³/$_{rev}^{U}$

$V = 36$ cm³/$_{rev}^{U}$
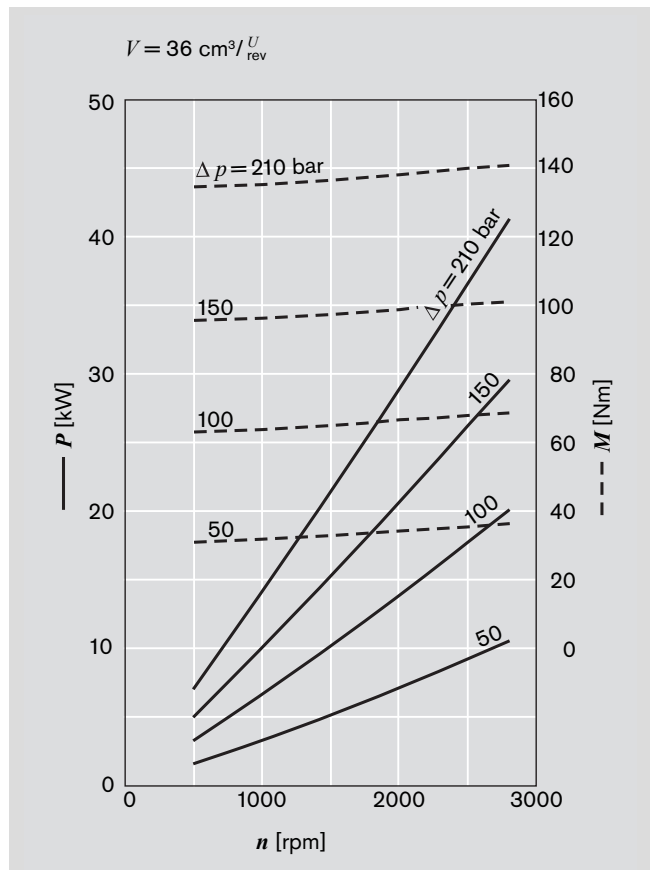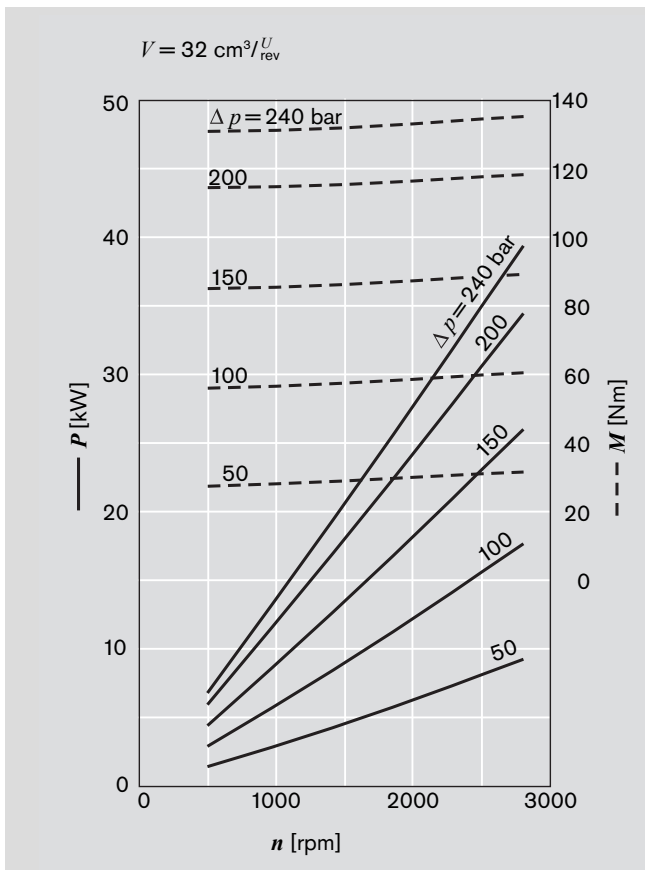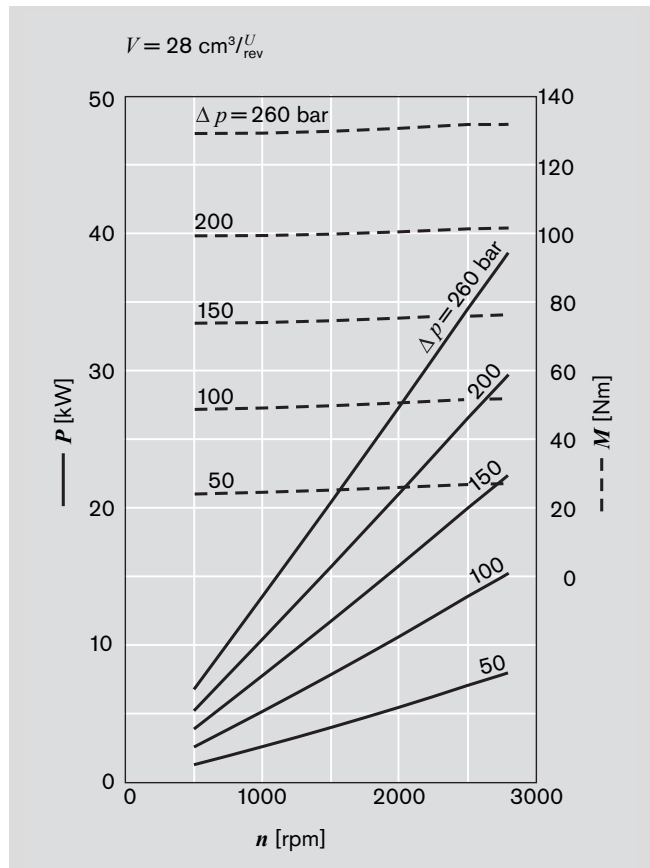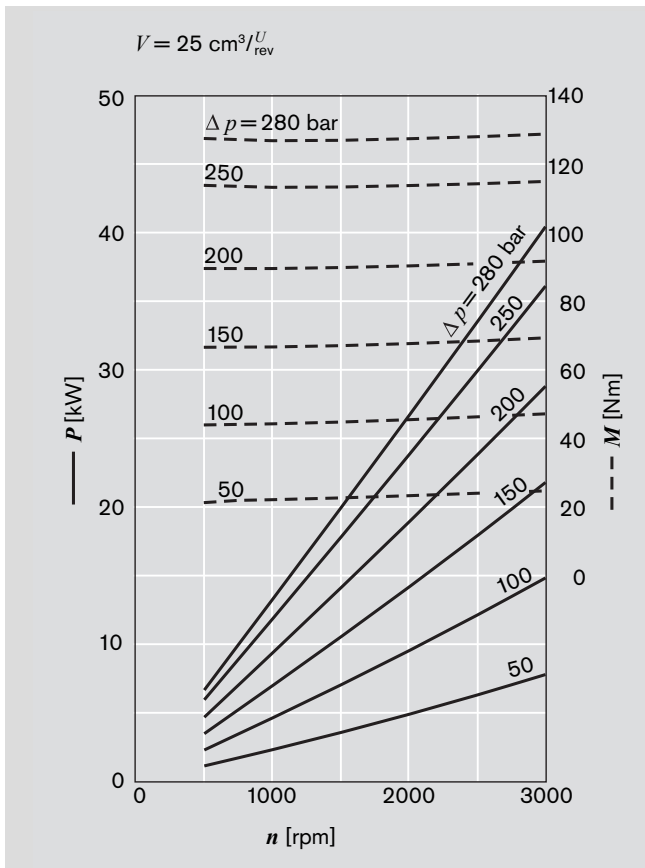
Noise charts

Noise level dependent on rotational speed, pressure range between 10 bar and pressure value p_2 (see page 12 Specifications table).
Oil data: $\nu = 32$ mm²/s, $\vartheta = 50\,°C$.
Sound pressure level calculated from noise measurements made in the sound absorbent measuring room compliant with DIN 45635, Part 26.
Spacing between measuring sensor – pump: 1 m.

These are typical characteristic values for the respective model. They describe the airborne sound emitted solely by the pump. Environmental influences (installation site, piping, further system components) are not taken into consideration.
Each value applies for a single pump.

$V = 20$ cm³/$^U_{rev}$

$V = 22.5$ cm³/$^U_{rev}$

$V = 25$ cm³/$^U_{rev}$

$V = 28$ cm³/$^U_{rev}$

$V = 32$ cm³/$^U_{rev}$

$V = 36$ cm³/$^U_{rev}$

L_{pA} [dB(A)]

n [rpm]
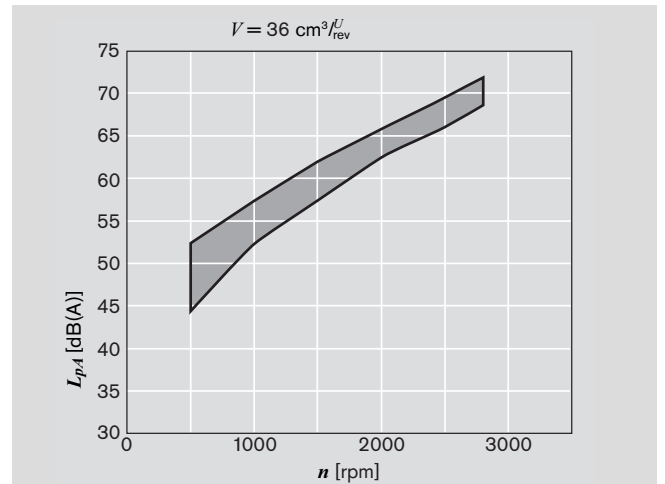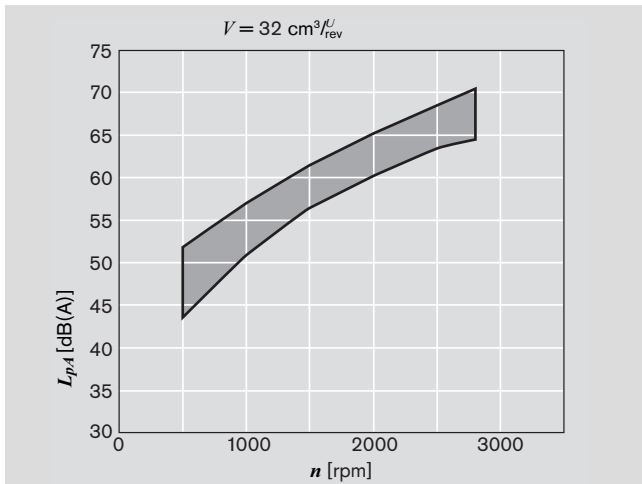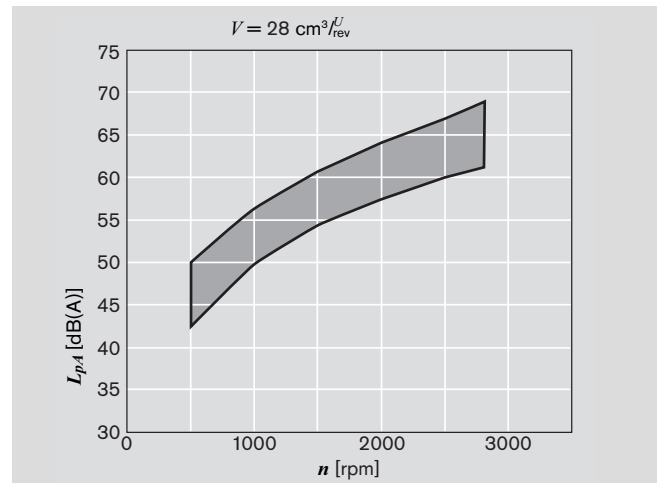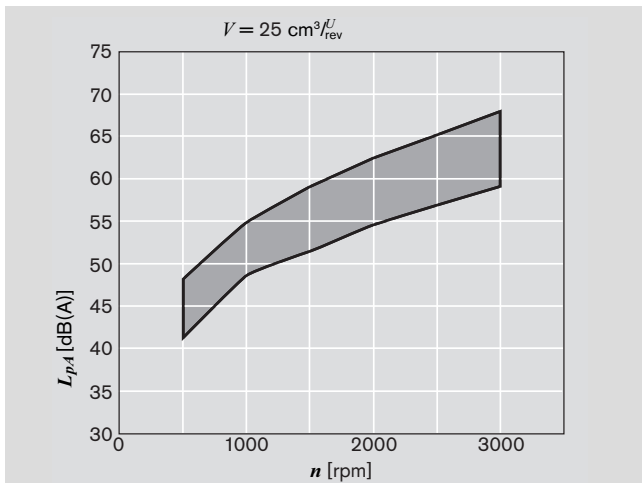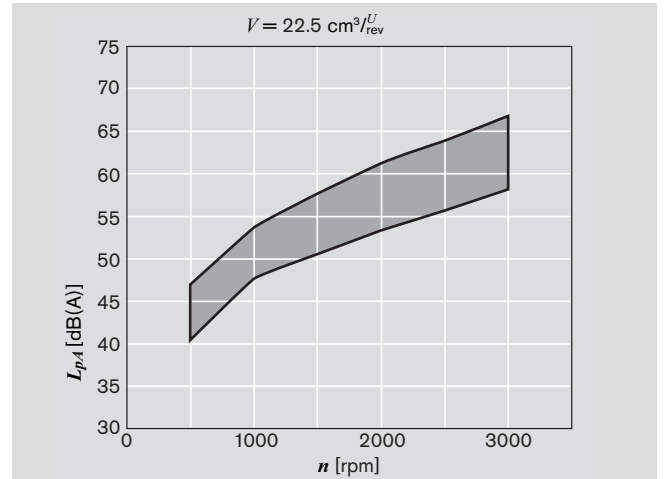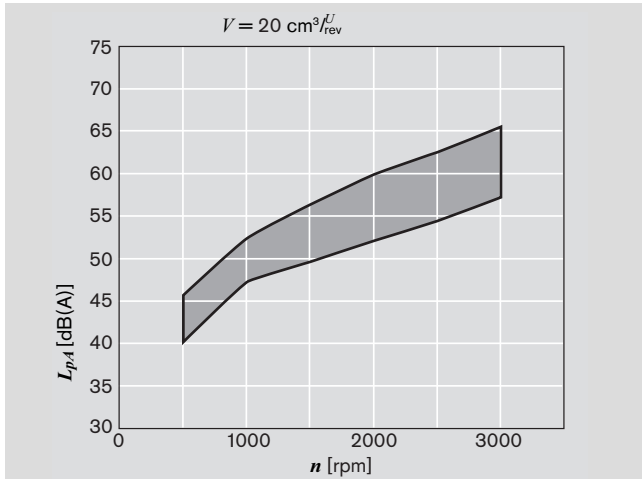
Specification

General	
Construction	External gear pump
Mounting	Flange or through-bolting with spigot
Line ports	Flange
Direction of rotation (looking on shaft)	Clockwise or counter-clockwise, the pump may only be driven in the direction indicated
Installation position	Any
Load on shaft	Radial and axial forces after consulting
Ambient temperature range	−30°C...+80°C or max. +110°C with FKM seals
Hydraulic fluid	– Mineral oil compliant with DIN 51 524, 1–3, however under higher load at least HLP compliant with DIN 51 524 Part 2 recommended. – Comply with RE 90220 – Further operating fluids possible after consultation
Viscosity	12...800 mm^2/s permitted range 20...100 mm^2/s recommended range ...2000 mm^2/s range permitted for starting
Hydraulic fluid temperature range	max. +80°C with NBR seals *) max. +110°C with FKM seals **)
Filtration ***)	At least cleanliness level 20/18/15 compliant with ISO 4406 (1999)

  *) NBR = Perbunan®
 **) FKM = Viton®
***) On hydraulic systems or devices with critical counter-reaction, such as steering and counterbalance valves, the type of filtration selected must be adapted to the sensitivity of these devices/ systems.

Safety requirements pertaining to the whole systems are to be observed.

In the case of applications with high numbers of load cycles please consulting.

Definition of direction of rotation

Always look on the drive shaft.

Caution: Dimensions drawings always show clockwise-rotation pumps.On counter-clockwise-rotation pumps the positions of the drive shaft and the suction and pressure ports are different.

Clockwise rotation   Counter-clockwise rotation
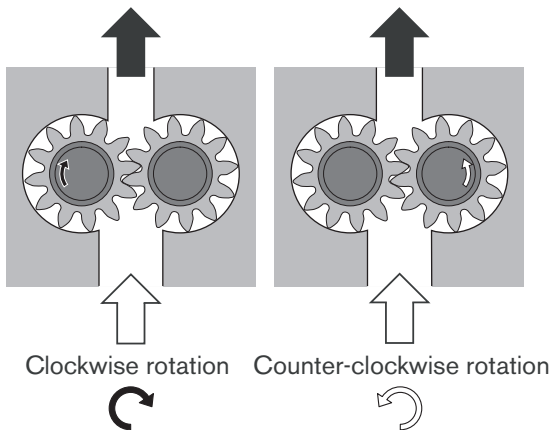
Definitions of pressures
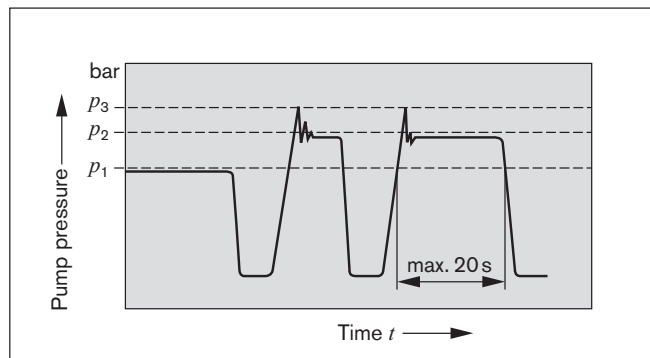
p_1 max. continuous pressure
p_2 max. intermittent pressure
p_3 max. peak pressure

AZPT-2x

Displacement	V	cm^3/rev	20	22,5	25	28	32	36
Suction pressure	p_e		0.7...3 (absolute), with tandem pumps p_e (p_2) = max. 0.5 p_e (p_1)					
Max. continuous pressure	p_1	bar	250	250	250	230	210	180
Max. intermittent pressure	p_2		280	280	280	260	240	210
Max. peak pressure	p_3		300	300	300	280	260	230
Min. rotational speed at bar 12 mm^2/s	<100	rpm	500	500	500	500	500	500
	100...180		600	600	600	600	600	600
	180... p_2		800	800	800	800	800	800
25 mm^2/s	p_2		500	500	500	500	500	500
Max. rotational speed at	p_2		3000	3000	3000	2800	2800	2800

Drive arrangement

1. Flexible couplings

The coupling must not transfer any radial or axial forces to the pump.

The maximum radial runout of shaft spigot is 0.2 mm.

Refer to the fitting instructions provided by the coupling manufacturer for details of the maximum permitted shaft misalignment.
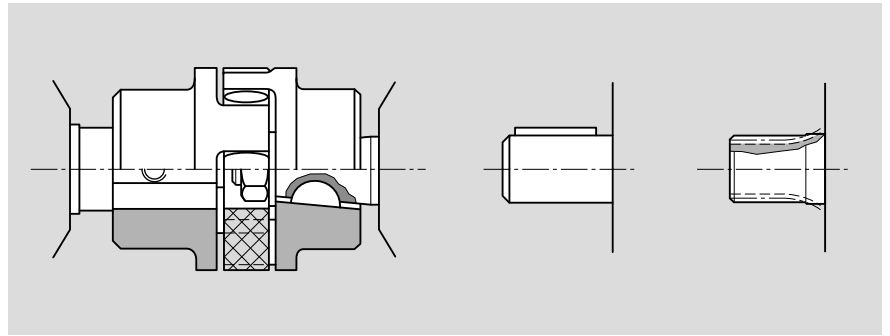
2. Coupling sleeve

Used on shafts with DIN or SAE splining. Caution: There must be no radial or axial forces exerted on the pump shaft or coupling sleeve. The coupling sleeve must be free to move axially. The distance between the pump shaft and drive shaft must be 2^{+1}. Oil-bath or oil-mist lubrications is necessary.
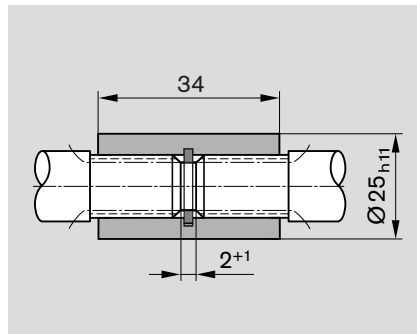
Splined shaft	Ordering code	M_{max} [Nm]
SAE-B 13 teeth	D	320
SAE-C 11 teeth	P	180

3. Drive shaft with tang

For the close-coupling of the pumps to electric motor or internal-combustion engine, gear, etc. The pump shaft has a special tang and driver ⓒ (not included in supply).
There is no shaft sealing.

The recommended arrangements and dimensions for the drive end and sealing are as follows.

ⓐ Drive shaft

Case-hardening steel DIN 17 210
e.g. 20 MnCrS 5
case-hardened 1.0 deep; HRA $83^{\pm2}$
Surface for sealing ring
ground without rifling $R_t \leq 4\mu m$

ⓑ Radial shaft seal ring

Rubber-covered seal (see DIN 3760, Type AS, or double-lipped ring).
Cut 15° chamfer or fit shaft seal ring with protection sleeve.
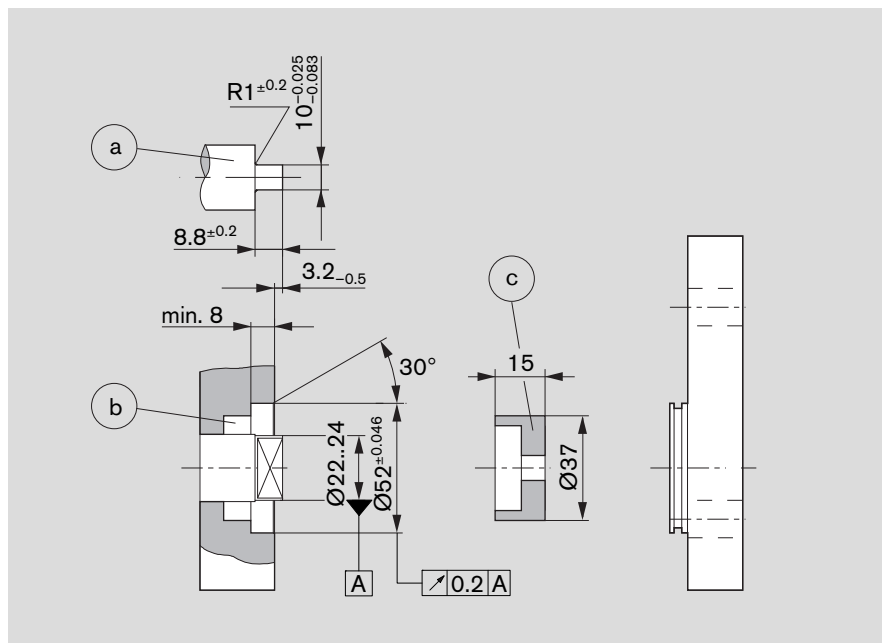
M_{max} [Nm]	V [cm^3/rev]	p_{max} [bar]
95	20	270
	22.5	240
	25	220
	28	190
	32	170
	36	150

4. V-belts and straight gearwheels or helical toothed gear drives without outboard bearing

When proposing to use V-belt or gear drive, please submit details of the application for our comments (especially dimensions a, d_m, d_w and angle α).
For helical toothed gear drives, details of the helix angle β are also required.
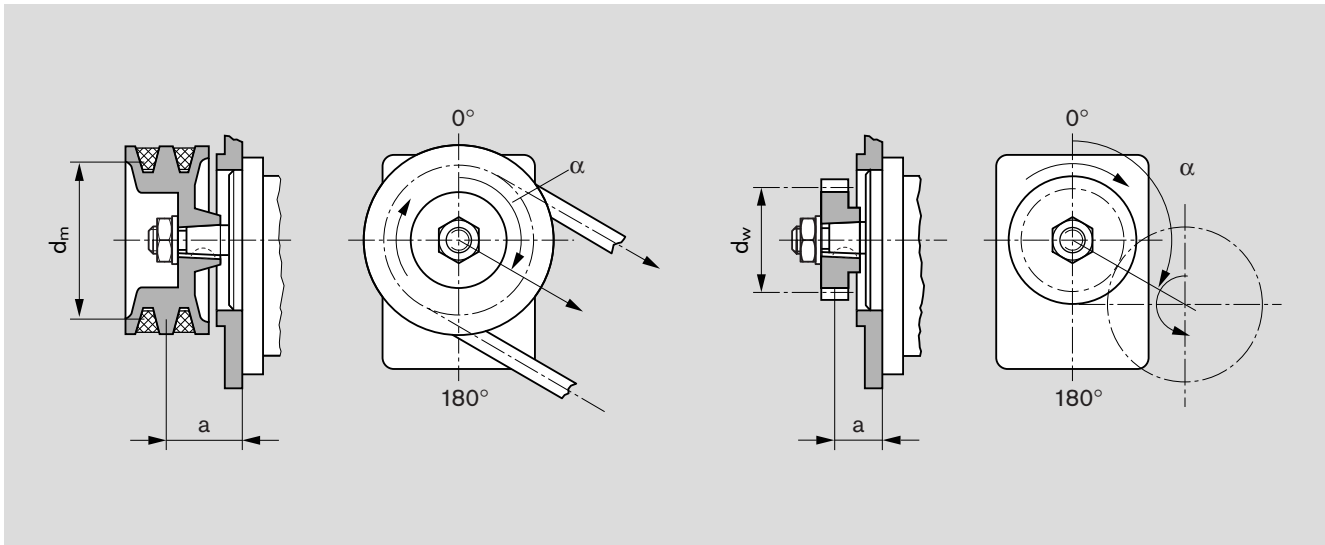
Multiple gear pumps

Gear pumps are well-suited to tandem combinations of pumps in which the drive shaft of the first pump is extended to drive a second pump and sometimes a third pump in the same manner. A coupling is fitted between each pair of pumps.
In most cases each pump is isolated from its neighbor, i.e. the suction ports are separate from one another. A common suction port is also possible as an option.
Caution: Basically, the specifications for the single pumps apply, but with certain restrictions:
Max. speed: This is determined by the highest rated pump speed in use.
Pressures: These are restricted by the strength of the drive shaft, the through drives and the drivers. Appropriate data is given in the dimensional drawings.

Pressure restrictions during standard through drive

In the case of series T, the driver for the second pumping stage can carry a load of up to $M_{max.} = 95$ Nm, i.e. there is a pressure restriction for the second stage and any further stages.

Drive shaft		Max. transferrable drive torque * [Nm]
C	1:5	200
N	Claw	95
D	SAE 13t	320
P	SAE 11t	180

* These values only apply when the conditions de-
scribed above are complied with. Bosch Rexroth is
to be consulted if the stated values are exceeded.

If the first stage is driven through a tang (driver) or outboard bearing type 1, pressure restrictions apply as indicated in the formula below.

Reinforced through drives are available for applications with higher transfer torques and/or rotational vibrations. Customized designs available on request.

$M_{max.}$

T　　　　　　　　　　T, S
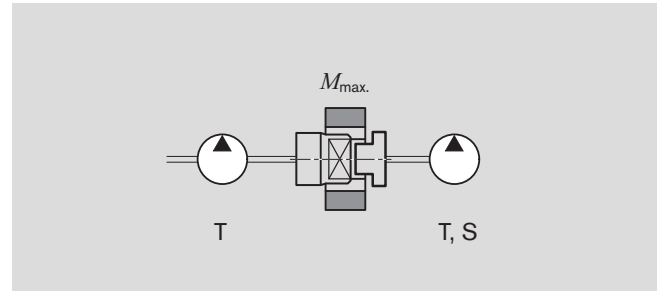
Combinations

Series pump 1	$M_{max.}$ [Nm]	Series pump 2
T	95	T
T	65	S

For configuration of multiple pumps we recommend the pump is positioned with the largest displacement on the drive side.

$M_{max.} = 160$ Nm

T　　　　　　　　　　T, S

$p_1\ V_1$　　　$p_2\ V_2$　　　$p_3\ V_3$

M
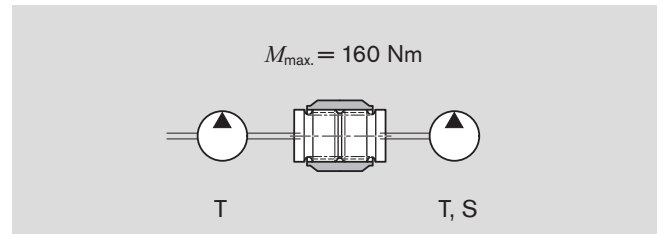
$$M_{max.} \gtrsim \Delta p_1 \cdot V_1 \cdot 0.0177 + \Delta p_2 \cdot V_2 \cdot 0.0177 + \Delta p_3 \cdot V_3 \cdot 0.0177$$
$$\Delta p\ [\text{bar}]\quad V\ [\text{cm}^3/\text{rev}]$$

Dimensions

Standard range

As shown in drawing

Inlet and outlet port changed
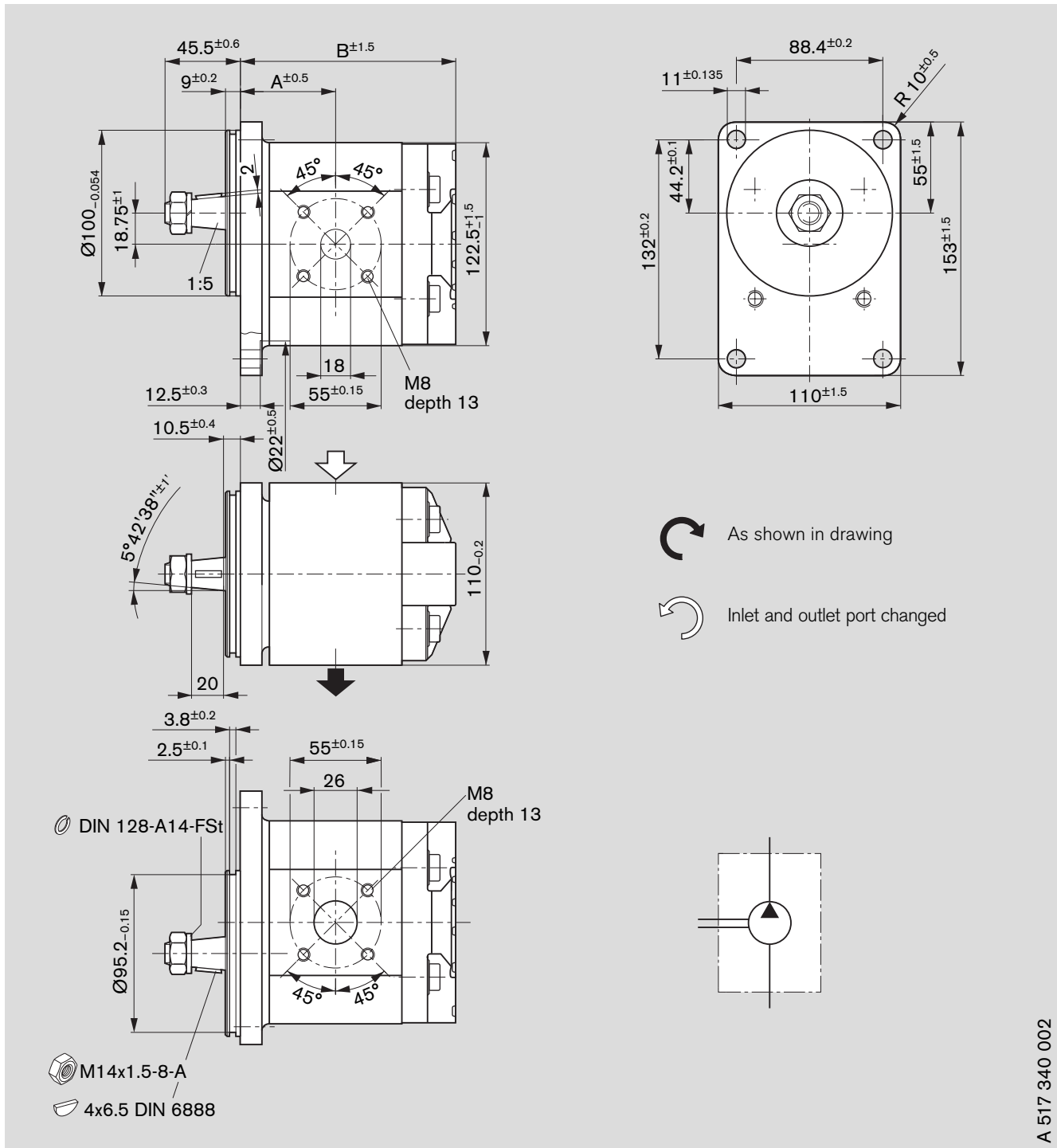
A 517 340 002

Ordering code:

AZPT – 22 – ☐ ☐ ☐   ☐ C B 20 M B

Displacement	Ordering-No.		Max. operating pressure	Max. rotation speed	kg	Dimension [mm]		
[cm³/rev]	L	R	[bar]	[rpm]		A	B	
20	0 517 625 309	0 517 625 008	280	3000		52.0	119.1	M8
22.5	0 510 725 302	0 517 725 016	280	3000		53.5	122.1	13 depth
25	0 517 725 313	0 517 725 017	280	3000		55.0	125.1	
28	0 517 725 314	0 517 725 018	260	3000		56.5	128.1	
32	0 517 725 315	0 517 725 019	240	2800		59.0	132.6	
36	0 517 725 316	0 517 725 020	210	2600		61.0	137.1	

Dimensions

Standard range

Min. 20.1
usable shaft length

Splined shaft ANSI B 92.1
13T 16/32 DP
Tooth thickness
$\hat{S}_W$= 2.155$_{-0.03}$

As shown in drawing

Inlet and outlet port changed
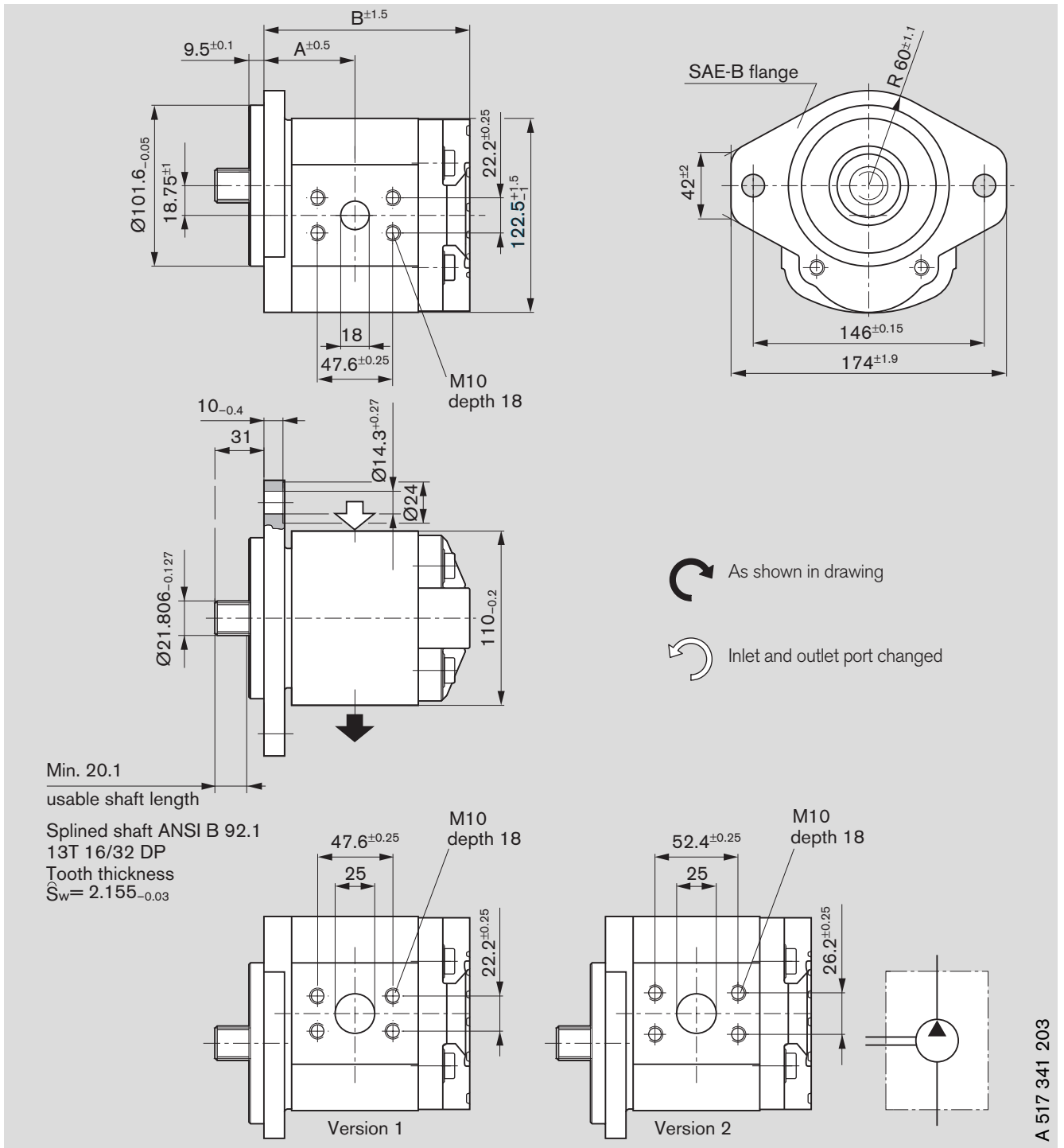
Version 1

Version 2

A 517 341 203

Ordering code:

AZPT – 22 – ☐ ☐ ☐ ☐ **D C 07 K B**

Displacement	Ordering-No.		Max. operating pressure	Max. rotation speed	kg	Dimension [mm]					Version
[cm³/rev]	**L**	**R**	[bar]	[rpm]		A	B	C	D		
20	**0 517 625 310**	**0 517 625 009**	280	3000		52.0	119.1	25	47.6	M10	1
22.5	**0 517 725 317**	**0 517 725 021**	280	3000		53.0	122.1	25	52.4	18 depth	2
25	**0 517 725 318**	**0 517 725 022**	280	3000		55.0	125.1	25	52.4		
28	**0 517 725 319**	**0 517 725 023**	260	3000		56.5	128.1	25	52.4		
32	**0 517 725 320**	**0 517 725 024**	240	2800		59.0	132.6	25	52.4		
36	**0 517 725 321**	**0 517 725 025**	210	2600		61.0	137.1	25	52.4		

Fittings

Fittings can be used for rectangular flange | 20 | see page 7

Gear pump flange, 90° angle
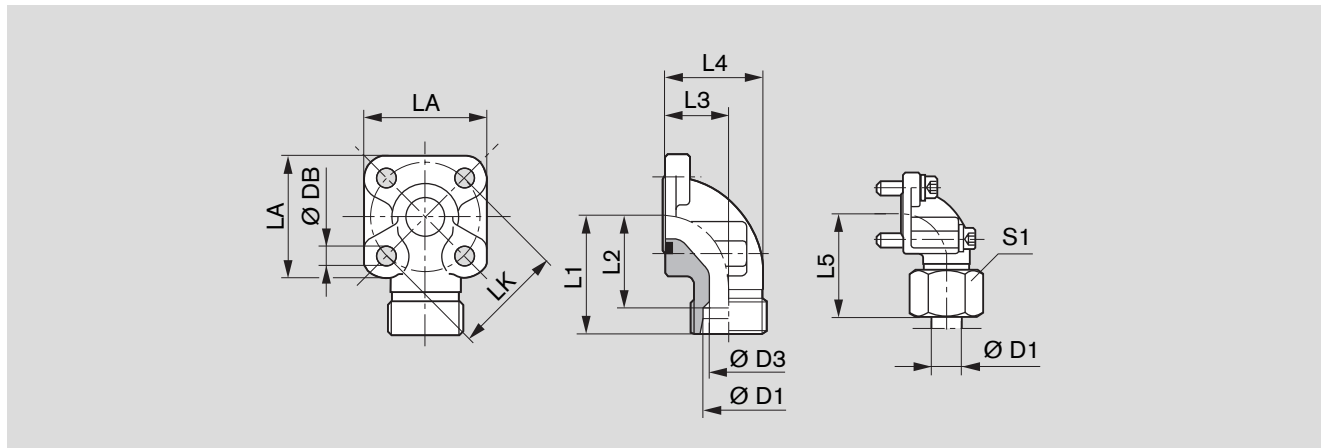
LK	D1	D3	L1	L2	L3	L4	L5	LA	S1	DB	Screws		Seal ring	Mass kg	Part number	p (bar)
											2 pcs.	2 pcs.				
55	20S	17	45	34.5	24.0	40.0	56.0	58	36	8.4	M 8x25	M 8x50	33x2.5	0.44	**1 515 702 004**	250
55	30S	26	49	35.5	32.0	50.0	62.0	58	50	8.4	M 8x25	M 8x50	33x2.5	0.50	**1 515 702 006**	250
55	35L	31	49	38.5	32.0	51.5	62.0	58	50	8.4	M 8x25	M 8x60	32x2.5	0.47	**1 515 702 005**	100
55	42L	38	49	38.0	40.0	64.5	61.0	58	60	8.4	M 8x25	M 8x70	32x2.5	0.60	**1 515 702 019**	100

Complete fittings with seal ring, metric screw set, nuts and olive.

Note
You can find the permissible tightening torques in our publication:
"General Operating Instructions for External Gear Units"
RE 07 012-B1**.**

Service parts

Single pump

Multiple pump
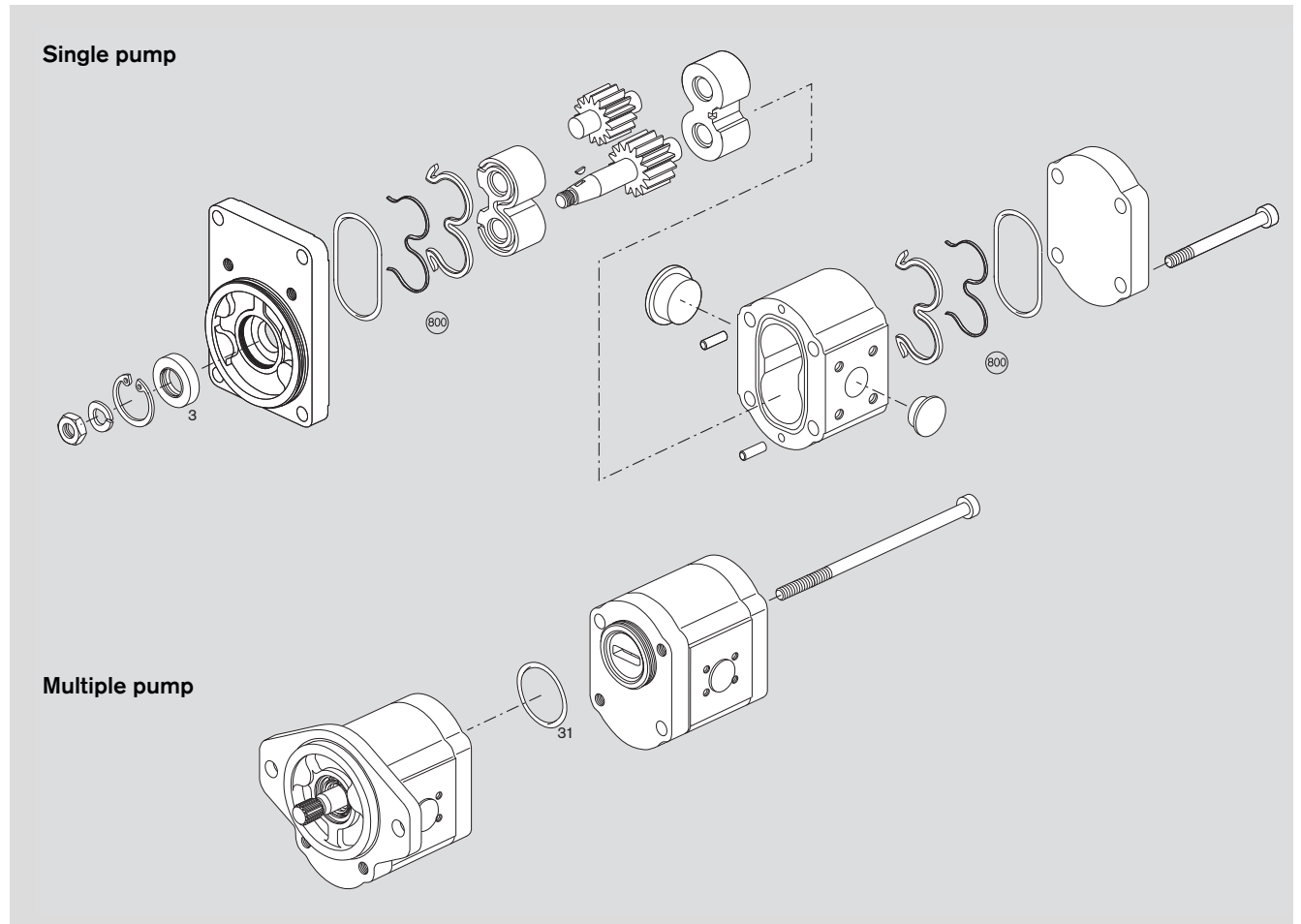
Page	Ordering code	Seal kit "T" Pos. 800 NBR	Shaft seal ring Pos. 3	Dimension	Seal ring Pos. 31	Material	Dimension
16	AZPT – 22 – ☐☐☐ ☐ C B 20 M B	1517010226	1510283023	40x22x7	–	NBR	
17	AZPT – 22 – ☐☐☐ ☐ D C 20 K B	1517010226	1510283028	40x22x7	–	FKM (SSR)	

NBR = Perbunan®   FKM = Viton®

Notes for commissioning

Filter recommendation

The major share of premature failures in external gear pumps is caused by contaminated hydraulic fluid.

As a warranty cannot be issued for dirt-specific wear, we recommended filtration compliant with cleanliness level 20/18/15 ISO 4406, which reduces the degree of contamination to a permissible dimension in terms of the size and concentration of dirt particles:

Operating pressure [bar]	>160	<160
Contamination class ISO 4406	18/15	19/16
To be reached with $\beta_X = 75$	20	25

We recommend that a full-flow filter always be used.
Basic contamination of the hydraulic fluid used may not exceed class 20/18/15 according to ISO 4406. Experience has shown that new fluid quite often lies above this value. In such instances a filling device with special filter should be used.

General

– The pumps supplied by us have been checked for function and performance. No modifications of any kind may be made to the pumps; any such changes will render the warranty null and void!
– Pump may only be operated in compliance with permitted data (see pages 15 – 18).

Project planning notes

Comprehensive notes and suggestions are available in Hydraulics Trainer, Volume 3 RE 00 281, "Project planning notes and design of hydraulic systems". Where external gear pumps are used we recommend that the following note be adhered to.

Technical data

All stated technical data is dependent on production tolerances and is valid for specific marginal conditions.
Note that, as a consequence, scattering is possible, and at certain marginal conditions (e.g. viscosity) **the technical data may change**.

Characteristics

When designing the external gear pump, note the maximum possible service data based on the characteristics displayed on pages 10 to 12.

Additional information on the proper handling of hydraulic products from Bosch Rexroth is available in our document: "General product information for hydraulic products" RE 07 008.

Contained in delivery

The components with characteristics as described under ordering code and device measurements, pages 16 – 17, are contained in delivery.

You can find further information in our publication: "General Operating Instructions for External Gear Units" RE 07 012-B1.

The AZ configurator at www.boschrexroth.com/azconfigurator

The AZ configurator assists you to con-figure your individual external gear unit easily and user-friendly. You only need to specify your requirements: From the displacement, direction of rotation, drive shaft, connection flange right up to the required rear cover. You immediately receive a project drawing (PDF format) if a configuration already exists. You receive the price of the configured external gear unit upon request.

The AZ configurator assists you to configure your individual external gear unit easily and user-friendly – all data needed for project planning are acquired thru menu guid-ance.
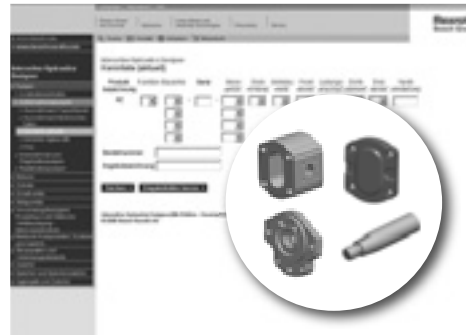
Selection is made either on an ordering code or your technical require-ments. This means that you can search for exter-nal gear units that have already been configured, or you specify the con-figuration variant of the external gear unit based upon the operating para-meters you require.

If the external gear unit you selected has been released you will receive the part number, ordering code and a detailed installation drawing. If your special configuration is not available please send your specification to Rexroth. One of our employees will then contact you.

Ordering-No.

Ordering-No.	Page		Ordering-No.	Page		Ordering-No.	Page
0 517 625 008	16		0 517 725 020	16		0 517 725 314	16
0 517 625 009	17		0 517 725 021	17		0 517 725 315	16
0 517 625 309	16		0 517 725 022	17		0 517 725 316	16
0 517 625 310	17		0 517 725 023	17		0 517 725 317	17
0 517 725 016	16		0 517 725 024	17		0 517 725 318	17
0 517 725 017	16		0 517 725 025	17		0 517 725 319	17
0 517 725 018	16		0 517 725 302	16		0 517 725 320	17
0 517 725 019	16		0 517 725 313	16		0 517 725 321	17