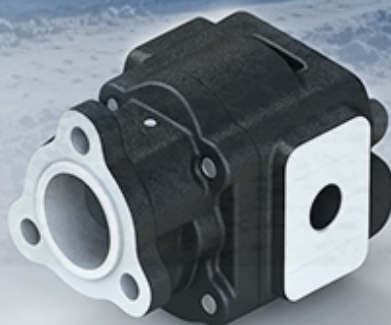
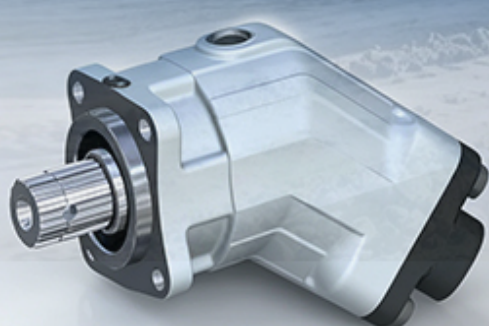


HYDRAULIC PUMPS

FOR TRUCK HYDRAULIC SYSTEM

Reliable Performance
Stronger Under Pressure



HIGH EFFICIENCY

Volumetric efficiency
up to 92%



RELIABLE QUALITY

Durable components
for long service life



LOW NOISE

Optimized design for
quieter operation



LONG SERVICE LIFE

Robust construction for
demanding applications

CONTENTS

HYDRAULIC PUMPS FOR TRUCK HYDRAULIC SYSTEMS

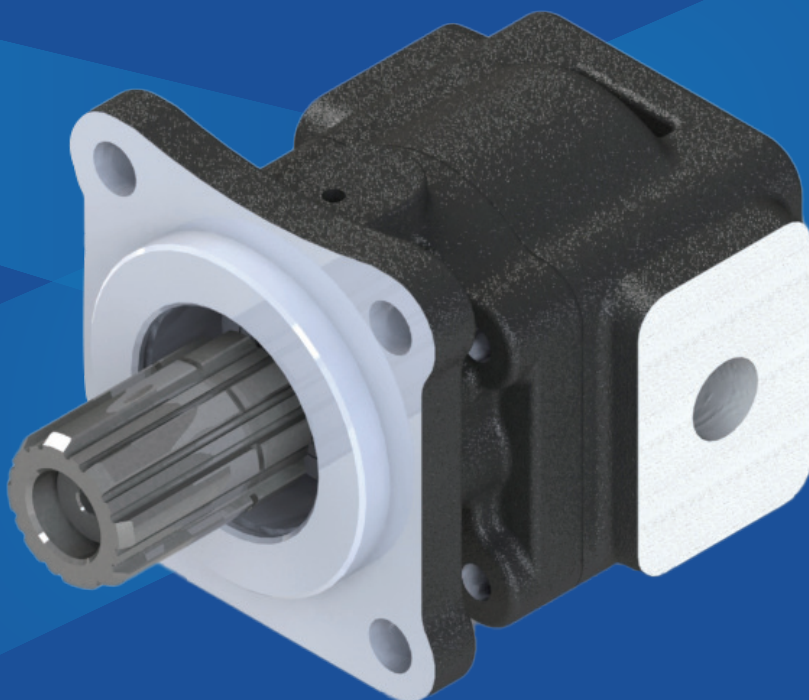
PRODUCT RANGE

01	GP30F ISO BI-DIRECTIONAL GEAR PUMP	01-02
02	GP30F UNI BI-DIRECTIONAL GEAR PUMP	03-04
03	GP40F ISO BI-DIRECTIONAL GEAR PUMP	05-06
04	GP40M UNI BI-DIRECTIONAL GEAR PUMP	07-08
05	GP50M ISO BI-DIRECTIONAL GEAR PUMP	09-10
06	GP60M ISO BI-DIRECTIONAL GEAR PUMP	11-12
07	R8 SERIES HYDRAULIC PISTON PUMPS FOR TRUCK APPLICATIONS	13-20

01

GP30F

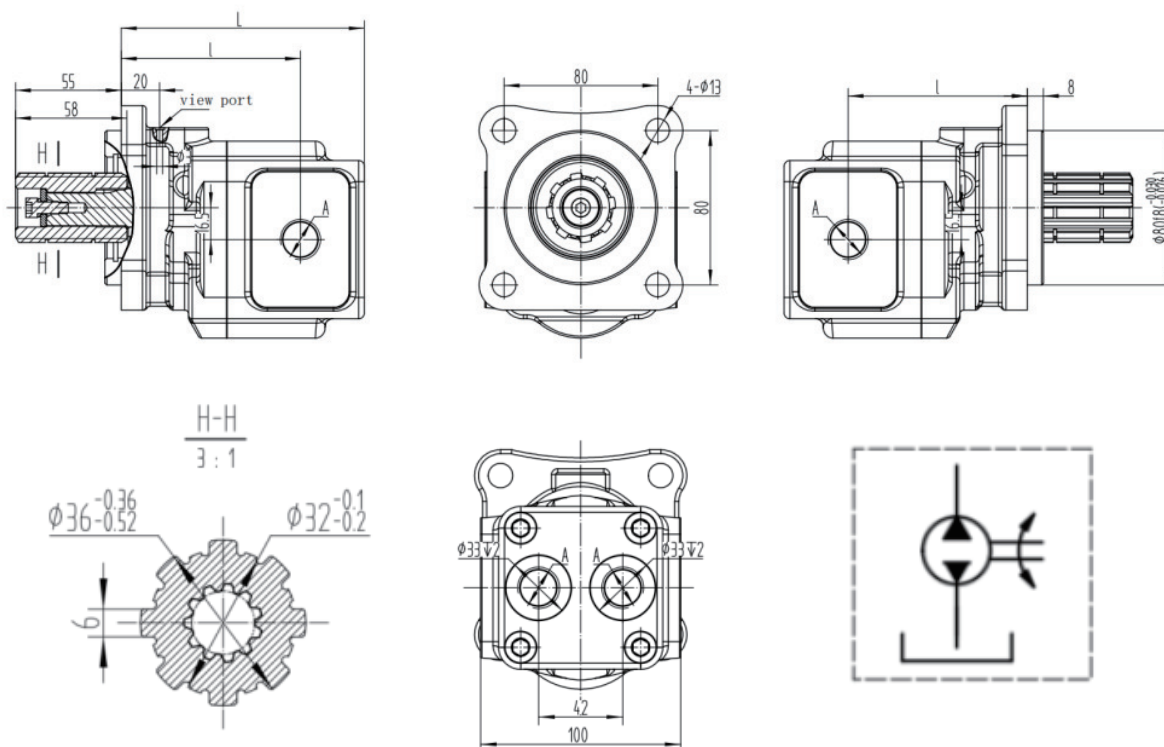
ISO BI-DIRECTIONAL
GEAR PUMP



TECHNICAL FEATURES:

- ① For medium-duty applications
- ② Shaft seal leakage inspection port
- ③ Bi-directional
- ④ Side and rear ports
- ⑤ Special DU bearing for long service life
- ⑥ Copper pressure-balanced wear plates maintain high efficiency throughout the service life
- ⑦ Volumetric efficiency $\geq 92\%$

OUTLINE DIMENSIONS



PRODUCT PARAMETERS

Code	Displacement (cm ³ /rev)	Pressure (P1/P2/P3)	Working Speed (rpm)	A	L (mm)	L (mm)	Weight (kg)
GP30F. 12B03C	12	270/290/320	600~3000	G1/2	121	89	10
GP30F. 18B03C	18	210/230/250	600~3000	G1/2	133	92	10.5
Inlet Pressure		Operating Viscosity		Fluid Temperature		Fluid Cleanliness	
0.3÷ 2 bar		20~80cSt		t= -20℃~ 80℃ (with NBR seals)		21/18/15 ISO 4406	

* P1 = continuous pressure, P2 = maximum pressure, P3 = peak pressure

02

GP30F ►

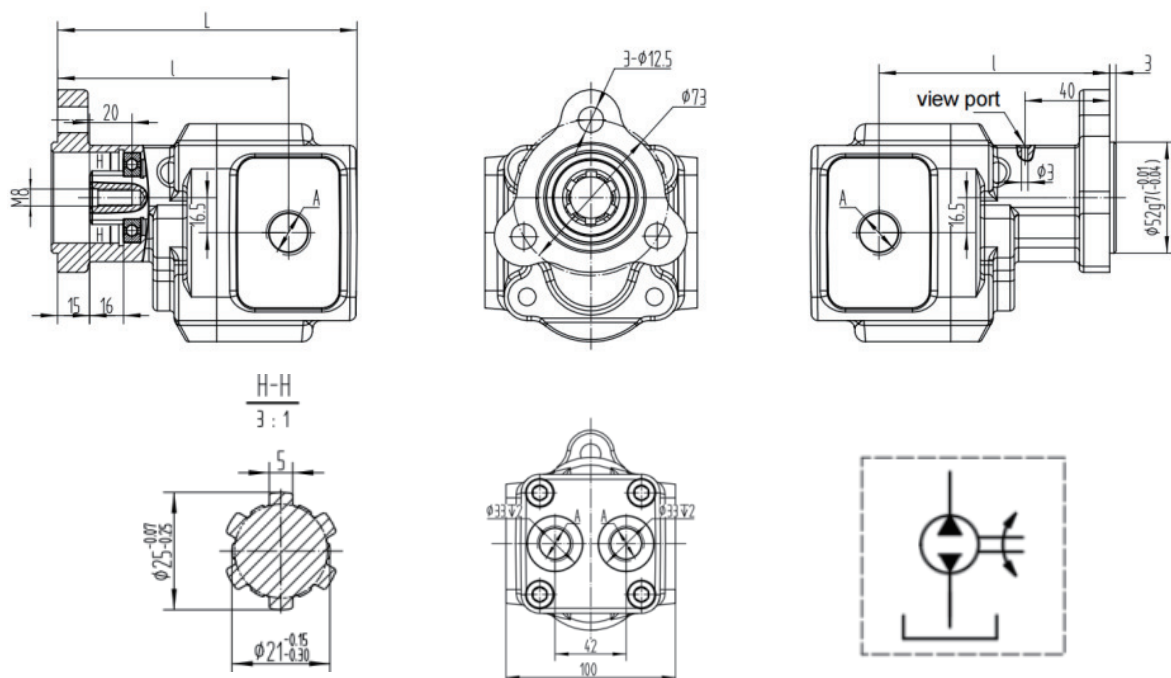
UNI BI-DIRECTIONAL
GEAR PUMP



TECHNICAL FEATURES:

- ① For medium-duty applications
- ② Shaft seal leakage inspection port
- ③ Bi-directional
- ④ Side and rear ports
- ⑤ Special DU bearing for long service life
- ⑥ Copper pressure-balanced wear plates maintain high efficiency throughout the service life
- ⑦ Volumetric efficiency $\geq 92\%$

OUTLINE DIMENSIONS



PRODUCT PARAMETERS

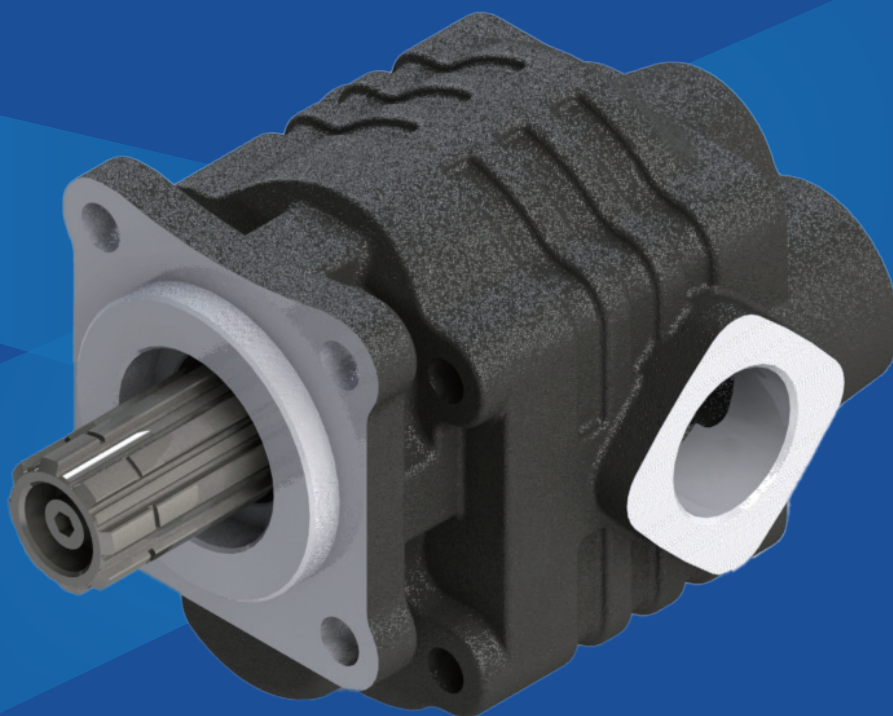
Code	Displacement (cm ³ /rev)	Pressure (P1/P2/P3)	Working Speed (rpm)	A	L (mm)	L (mm)	Weight (kg)
GP30F. 12R12	12	270/290/320	600~3000	G1/2	141	108	10
GP30F. 18R12	18	210/230/250	600~3000	G1/2	153	111	10.5
Inlet Pressure		Operating Viscosity		Fluid Temperature		Fluid Cleanliness	
0.3÷ 2 bar		20~80cSt (Recommended during continuous operation)		t= -20 °C ~ 80 °C (with NBR seals) t= -50 °C ~ 120 °C (with HNBR seals)		21/18/15 ISO 4406 (Pressure P2 < 200 bar) (Pressure P2 > 200 bar)	

* P1 = continuous pressure, P2 = maximum pressure, P3 = peak pressure

03

GP40F ►

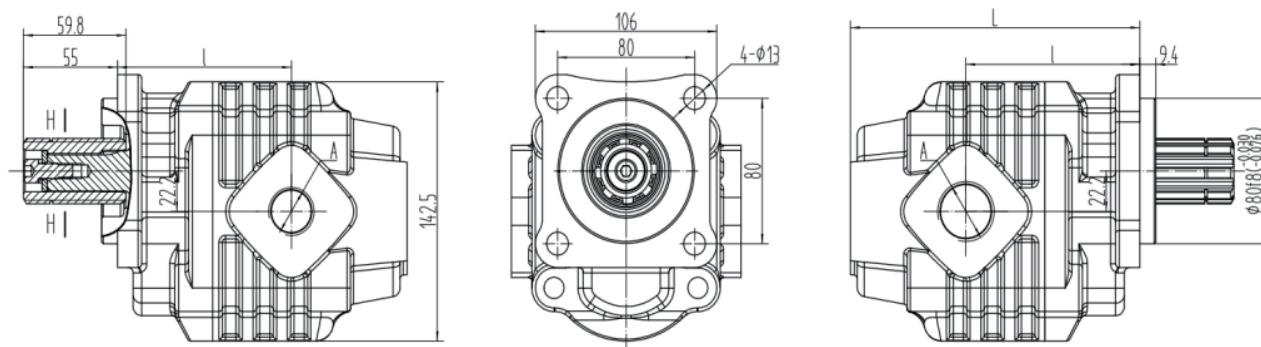
ISO BI-DIRECTIONAL
GEAR PUMP



TECHNICAL FEATURES:

- ① For medium-duty applications
- ② Shaft seal leakage inspection port
- ③ Bi-directional
- ④ Side and rear ports
- ⑤ Special DU bearing for long service life
- ⑥ Copper pressure-balanced wear plates maintain high efficiency throughout the service life
- ⑦ Volumetric efficiency $\geq 92\%$

OUTLINE DIMENSIONS



PRODUCT PARAMETERS

Code	Displacement (cm ³ /rev)	Pressure (P1/P2/P3)	Working Speed (rpm)	A	L (mm)	L (mm)	Weight (kg)
GP40F. 25R07	25	225/260/280	600~3000	G3/4	141	96.5	10
GP40F. 32R07	32	225/260/280	600~3000	G3/4	146	101.5	10.5
GP40F. 40R07	40	225/260/280	600~3000	G3/4	149.5	98	11
GP40F. 45R07	45	225/260/280	600~3000	G1	153	101.5	11.5
GP40F. 55R07	55	200/230/250	600~3000	G1-1/4	160	108.5	12
GP40F. 65R07	65	200/230/250	600~3000	G1-1/4	167	108	12.5
GP40F. 75R07	75	200/230/250	600~3000	G1-1/4	174	108.5	13.5
Inlet Pressure		Operating Viscosity		Fluid Temperature		Fluid Cleanliness	
0.3÷ 2 bar		20~80cSt (Recommended during continuous operation)		t= -20 °C ~ 80 °C (with NBR seals) t= -50 °C ~ 120 °C (with HNBR seals)		21/18/15 ISO 4406 (Pressure P2 < 200 bar) (Pressure P2 > 200 bar)	

* P1 = continuous pressure, P2 = maximum pressure, P3 = peak pressure

04

GP40M ►

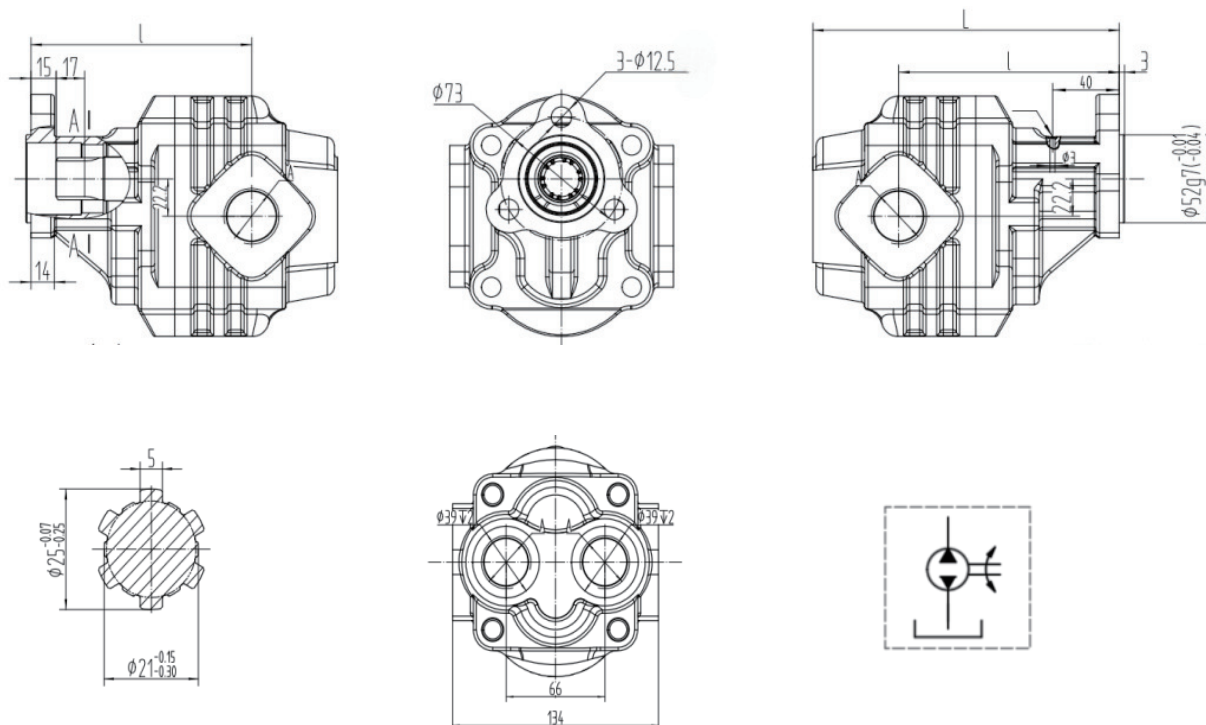
UNI BI-DIRECTIONAL
GEAR PUMP



TECHNICAL FEATURES:

- ① For medium-duty applications
- ② Shaft seal leakage inspection port
- ③ Bi-directional
- ④ Side and rear ports
- ⑤ Special DU bearing for long service life
- ⑥ Copper pressure-balanced wear plates maintain high efficiency throughout the service life
- ⑦ Volumetric efficiency $\geq 92\%$

OUTLINE DIMENSIONS



PRODUCT PARAMETERS

Code	Displacement (cm ³ /rev)	Pressure (P1/P2/P3)	Working Speed (rpm)	A	L (mm)	L (mm)	Weight (kg)
GP40M. 25R13	25	270/290/315	600~3000	G3/4	162	115.5	10
GP40M. 32R13	32	270/290/315	600~3000	G3/4	174.5	127.5	10.5
GP40M. 40R13	40	260/280/300	600~3000	G3/4	180	128.5	11
GP40M. 45R13	45	220/260/280	600~3000	G1	183.5	132	11.5
Inlet Pressure		Operating Viscosity		Fluid Temperature		Fluid Cleanliness	
0.3~ 2 bar		20~80cSt (Recommended during continuous operation)		t= -20 C ~ 80 C (with NBR seals) t= -50 C ~ 120 C (with HNBR seals)		21/18/15 ISO 4406 (Pressure P2 < 200 bar) (Pressure P2 > 200 bar)	

* P1 = continuous pressure, P2 = maximum pressure, P3 = peak pressure

05

GP50M ▶

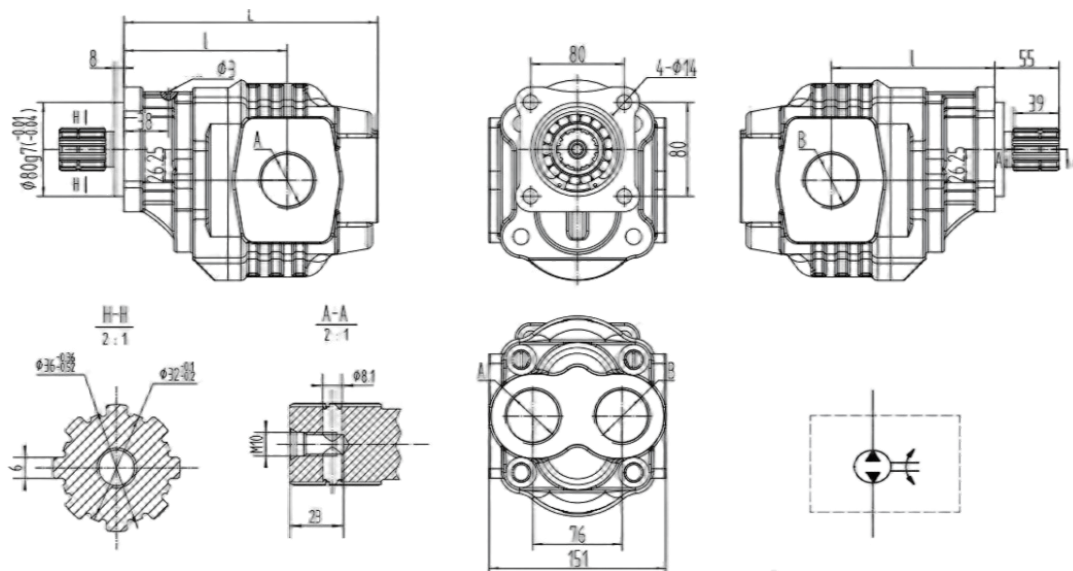
ISO BI-DIRECTIONAL
GEAR PUMP



TECHNICAL FEATURES:

- ① For heavy-duty, high-pressure applications
- ② Shaft seal leakage inspection port
- ③ Bi-directional
- ④ Side and rear ports
- ⑤ Special DU bearing for long service life
- ⑥ Copper pressure-balanced wear plates maintain high efficiency throughout the service life
- ⑦ Volumetric efficiency $\geq 92\%$

OUTLINE DIMENSIONS



PRODUCT PARAMETERS

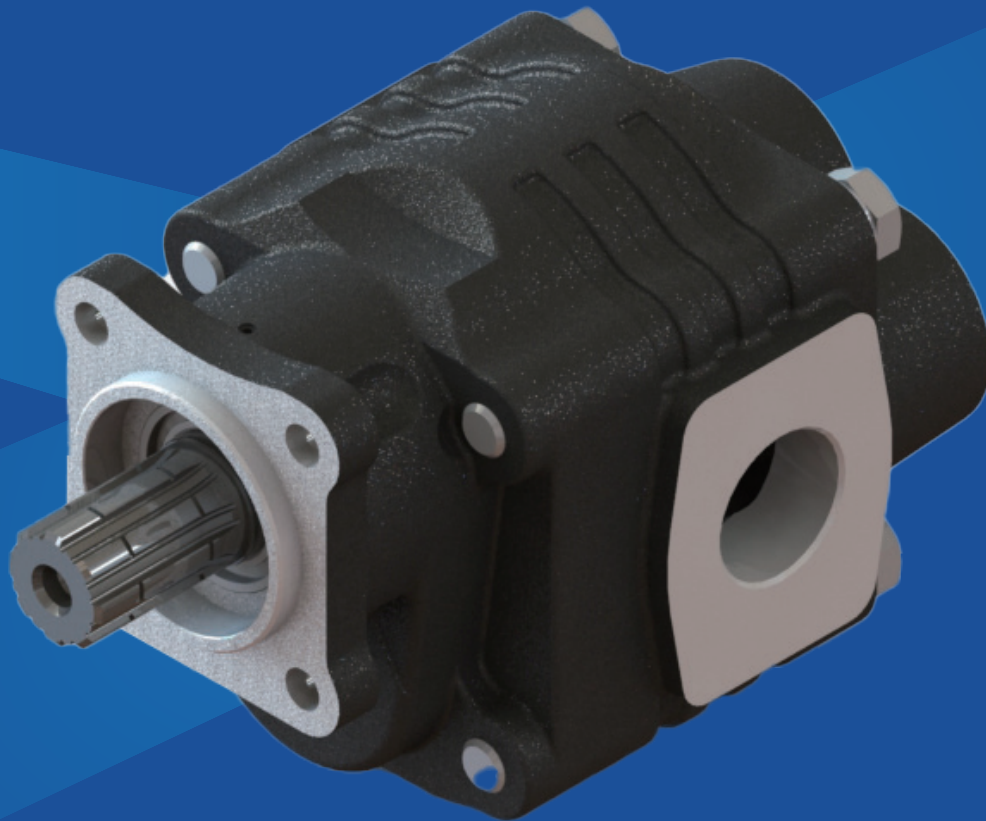
Code	Displacement (cm ³ /rev)	Pressure (P1/P2/P3)	Working Speed (rpm)	A	L (mm)	L (mm)	Weight (kg)
GP50M45B 10H01	45	225/260/280	600~3000	G 1	187	124	14
GP50M55B 10H01	55	225/260/280	600~3000	G 1-1/4	193	129	15
GP50M75B 10H01	75	225/260/280	600~3000	G 1-1/4	205	139	18
GP50M85B 10H01	85	225/260/280	600~3000	G 1-1/4	205	139	18
GP50M95B 10H01	95	200/230/250	600~3000	G1-1/4	214	137	19
GP50M105B 10H01	105	200/230/250	600~3000	G 1-1/2	217	139	20
GP50M115B 10H01	115	200/230/250	600~3000	G 1-1/2	224	139	22
Inlet Pressure		Operating Viscosity		Fluid Temperature		Fluid Cleanliness	
0.3÷ 2 bar		20~80cSt (Recommended during continuous operation)		t= -20 °C ~ 80 °C (with NBR seals) t= -50 °C ~ 120 °C (with HNBR seals)		21/18/15 ISO 4406 (Pressure P2 < 200 bar) (Pressure P2 > 200 bar)	

* P1 = continuous pressure, P2 = maximum pressure, P3 = peak pressure

06

GP60M ►►

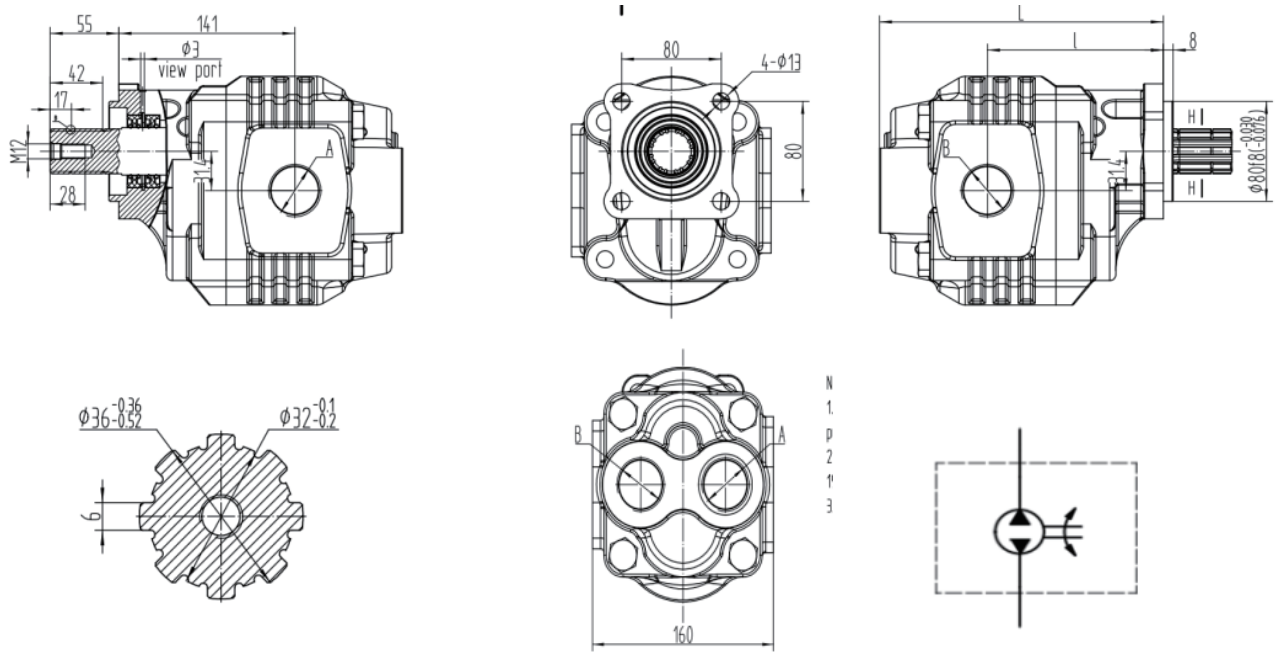
ISO BI-DIRECTIONAL
GEAR PUMP



TECHNICAL FEATURES:

- ① For medium-duty applications
- ② Shaft seal leakage inspection port
- ③ Bi-directional
- ④ Side and rear ports
- ⑤ Special DU bearing for long service life
- ⑥ Copper pressure-balanced wear plates maintain high efficiency throughout the service life
- ⑦ Volumetric efficiency $\geq 92\%$

OUTLINE DIMENSIONS



PRODUCT PARAMETERS

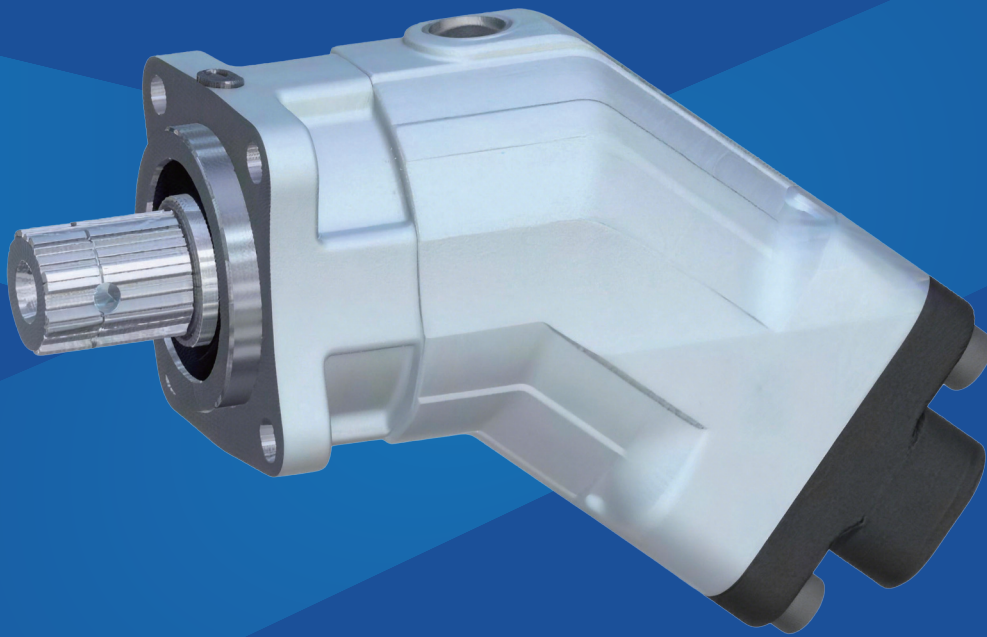
Code	Displacement (cm ³ /rev)	Pressure (P1/P2/P3)	Working Speed (rpm)	A	L (mm)	L (mm)	Weight (kg)
GP60M. 85B12	85	250/290/315	600~3000	G 1-1/4	210	132	19
GP60M. 95B12	95	250/290/315	600~3000	G 1-1/4	212	135	21
GP60M. 105B12	105	250/290/315	600~3000	G 1-1/2	225	138	22.5
GP60M. 115B12	115	250/290/315	600~3000	G 1-1/2	227	141	24.5
GP60M. 125B12	125	250/290/315	600~3000	G 1-1/2	230	141	26
Inlet Pressure		Operating Viscosity		Fluid Temperature		Fluid Cleanliness	
0.3÷ 2 bar		20~80cSt (Recommended during continuous operation)		t= -20 °C ~ 80 °C (with NBR seals) t= -50 °C ~ 120 °C (with HNBR seals)		21/18/15 ISO 4406 (Pressure P2 < 200 bar) (Pressure P2 > 200 bar)	

* P1 = continuous pressure, P2 = maximum pressure, P3 = peak pressure

07

R8 Series ▶

Hydraulic Piston Pumps
for Truck Applications



TECHNICAL FEATURES:

- Flange and shaft designed for direct mounting on the power take-off of trucks
- Weight-optimized thanks to die-cast aluminum housing
- No case drain line required
- Reduced noise
- Easy adjustment of drive direction
- Excellent suction performance
- High total efficiency
- Long service life
- High-pressure pump for use in trucks
- Sizes 23 to 125
- Nominal pressure/maximum pressure 350/400 bar
- Bent-axis design

01	02	03	04		05	06	07	08	09	10	11	
R8			/	01	N	L	W	K0	E8	1	-	

Axial piston unit

01	Bent-axis design, fixed, nominal pressure 350 bar, maximum pressure 400 bar, for commercial vehicles (truck)	R8
----	--	-----------

Operating mode

02	Pump, open circuit	O
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Sizes (NG)

03	Geometric displacement, see table of values on page 5	023	032	045	063	080	107
----	---	------------	------------	------------	------------	------------	------------

Series

04	1 0	10
----	-----	-----------

Configuration of port and fastening threads

05	Metric, port threads with profiled sealing ring according to DIN 3852	N
----	---	----------

Direction of rotation¹⁾

06	Viewed on drive shaft	counter-clockwise/clockwise	L/R
----	-----------------------	-----------------------------	------------

Sealing material

07	FKM (fluor-caoutchouc) including the 2 shaft seal rings in FKM	W
----	--	----------

Mounting flange

08	Special flange ISO 7653-1985 (for trucks)	K0
----	---	-----------

Drive shaft

09	Splined shaft similar to DIN ISO 14 (for trucks)	E8
----	--	-----------

Service line port

10	Threaded ports A and S at rear	1
----	--	----------

Standard / special version

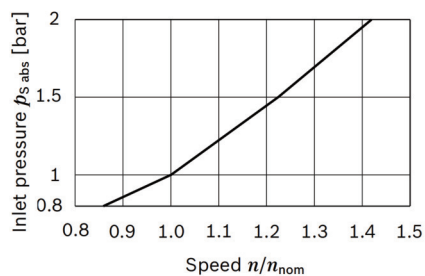
11	Standard version	0
	Special version	S

TECHNICAL DATA

Size	NG		23	32	45	63	80	107
Displacement, geometric, per revolution	V_g	cm ³	22.9	32	45.6	63	80.4	106.7
Speed maximum ¹⁾	n_{nom} ²⁾	rpm	3050	2750	2650	2200	2150	2000
	n_{max} ³⁾	rpm	4300	3900	3800	3200	3100	2800
Flow at n_{nom}	q_v	l/min	70	88	121	139	173	213
Power at n_{nom} and $\Delta p = 350$ bar	P	kW	41	51	71	81	101	124
Torque at $\Delta p = 350$ bar	T	Nm	127	178	254	351	448	594
Rotary stiffness	c	kNm/rad	2.56	3.12	4.18	6.25	8.73	11.2
Moment of inertia for rotary group	J_{TW}	kgm ²	0.0012	0.0012	0.003	0.0042	0.0072	0.0116
Maximum angular acceleration	α	rad/s ²	6500	6500	14600	7500	6000	4500
Case volume	V	l	0.25	0.29	0.4	0.5	0.6	0.75
Mass moment	T_G	Nm	4.7	4.7	8.6	9.9	15.3	20
Mass (approx.)	m	kg	5.9	5.9	8.4	9.3	12.3	15.0

*** size of 125 are available now

▼ Maximum speed (limiting speed)



Determining the operating characteristics

Flow	$q_v = \frac{V_g \times n \times \eta_v}{1000}$	[l/min]
Torque	$T = \frac{V_g \times \Delta p}{20 \times \pi \times \eta_{hm}}$	[Nm]
Power	$P = \frac{2 \pi \times T \times n}{60000} = \frac{q_v \times \Delta p}{600 \times \eta_t}$	[kW]

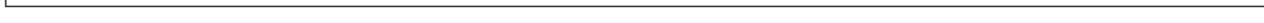
Key

- $V_g \Delta$ Displacement per revolution [cm³]
- p_n Differential pressure [bar]
- η_v Speed [rpm]
Volumetric efficiency
- η_{hm} Hydraulic-mechanical efficiency
- η_t Total efficiency ($\eta_t = \eta_v \times \eta_{hm}$)

Note

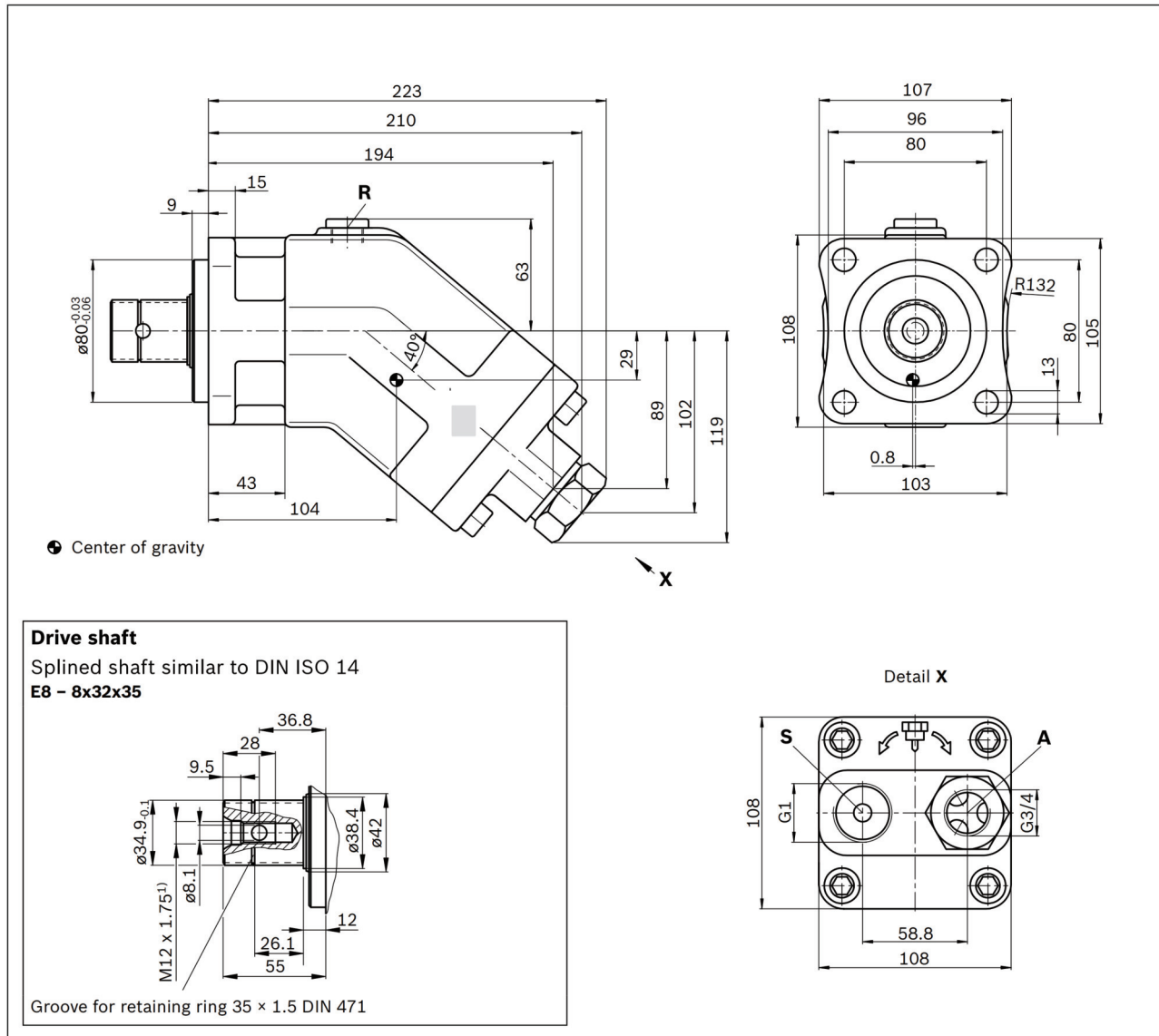
- Theoretical values, without efficiency and tolerances; values rounded.
- Operation above the maximum values or below the minimum values may result in a loss of function, a reduced service life or in the destruction of the axial piston unit. Other permissible limit values, such as speed variation, reduced angular acceleration as a function of the frequency and the permissible angular acceleration at start (lower than the maximum angular acceleration) can be found in data sheet 90261.

- 1) The values are applicable:
 - for the optimum viscosity range from $\nu_{opt} = 36$ bis 16 mm²/s
 - for hydraulic fluids based on mineral oils.
- 2) The values apply at absolute pressure $p_{abs} = 1$ bar at suction port **S**
- 3) Maximum speed (speed limit) with increased inlet pressure p_{abs} at suction port **S** (see diagram).



The permissible drive direction of the pump, Looking at the drive shaft: clockwise

Dimensions, size 45



Ports		Standard	Size	$p_{\max \text{ abs}}$ [bar] ²⁾	State ⁵⁾
A	Service line port	DIN ISO 228	G3/4; 16 deep	400	O
S	Suction port	DIN ISO 228	G1; 18 deep	2	O
R	Air bleed port	DIN 3852 ⁴⁾	M10 x 1, 8 deep	2	X ³⁾

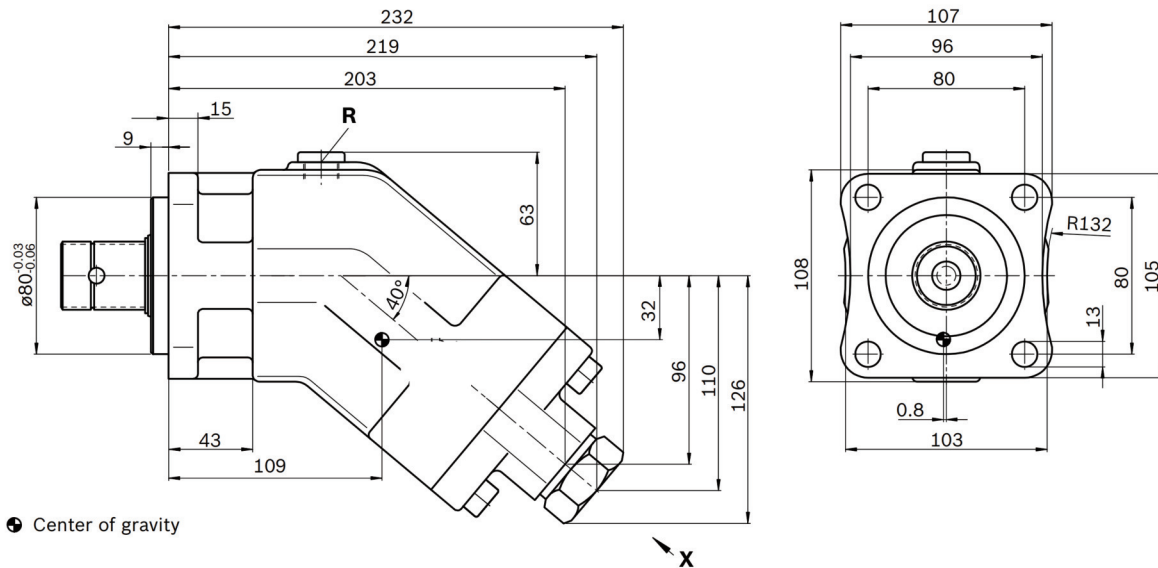
- 1) Center bore according to DIN 332 (thread according to DIN 13)
- 2) Momentary pressure spikes may occur depending on the application. Keep this in mind when selecting measuring devices and fittings.
- 3) Only open port **R** for filling and air bleeding.
- 4) The spot face can be deeper than as specified in the appropriate standard.
- 5) O = Must be connected (plugged on delivery)
X = Plugged (in normal operation)

Ordering code:

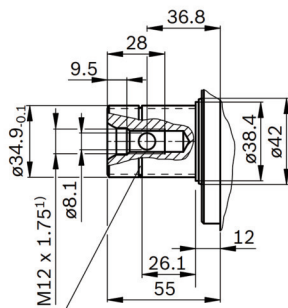
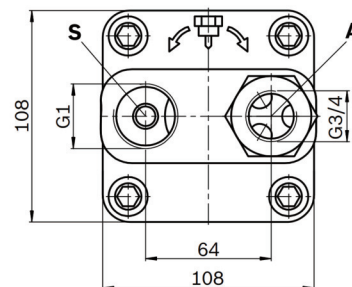
R810-045/10NRWK0E81-0

The permissible drive direction of the pump, Looking at the drive shaft: clockwise

Dimensions, size 63

**Drive shaft**

Splined shaft similar to DIN ISO 14
E8 – 8x32x35

**Detail X**

Ports	Standard	Size	$p_{\max \text{ abs}}$ [bar] ²⁾	State ⁵⁾
A	DIN ISO 228	G3/4; 16 deep	400	O
S	DIN ISO 228	G1; 18 deep	2	O
R	DIN 3852 ⁴⁾	M10 x 1, 8 deep	2	X ³⁾

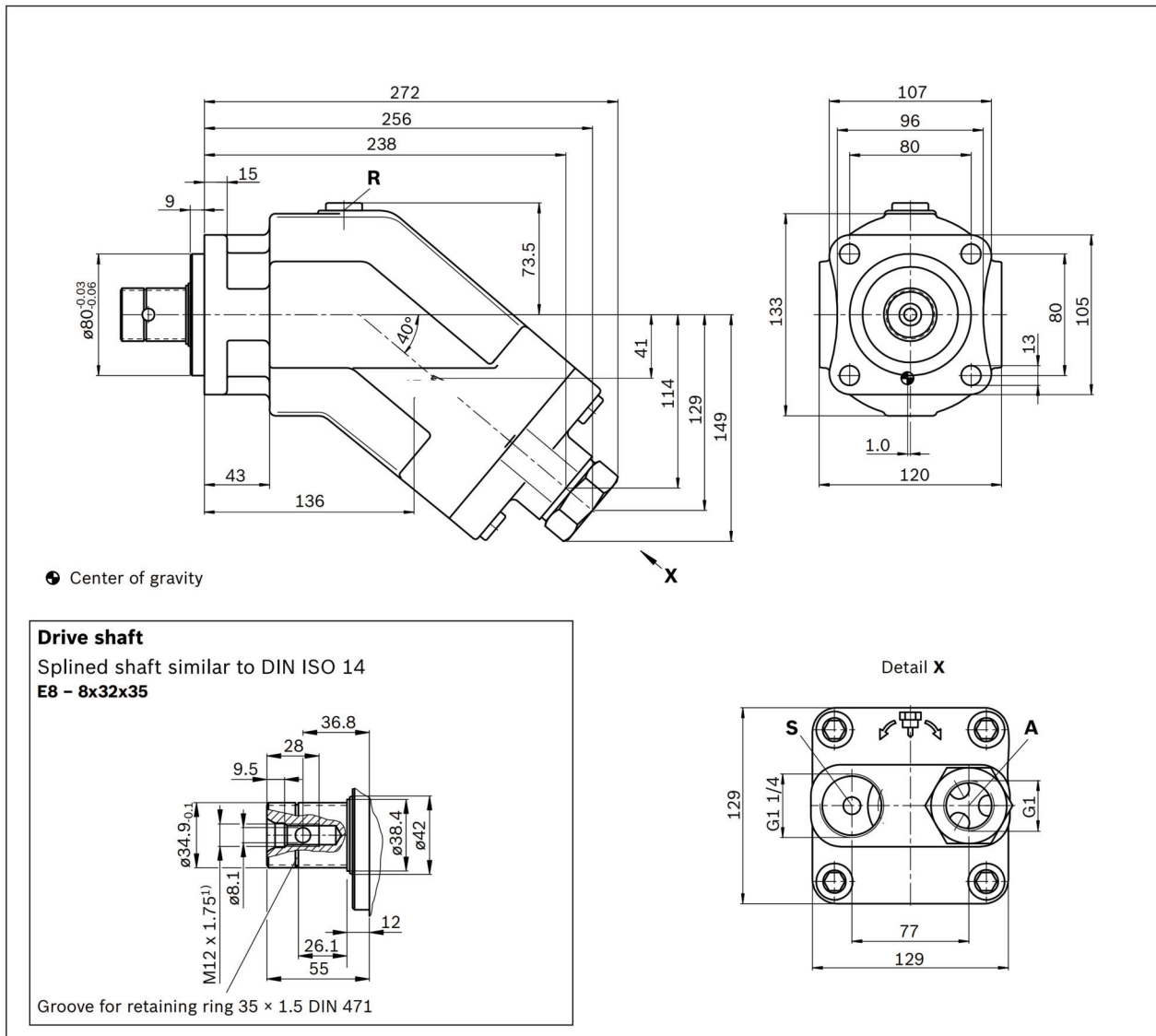
- 1) Center bore according to DIN 332 (thread according to DIN 13)
- 2) Momentary pressure spikes may occur depending on the application. Keep this in mind when selecting measuring devices and fittings.
- 3) Only open port **R** for filling and air bleeding.
- 4) The spot face can be deeper than as specified in the appropriate standard.
- 5) O = Must be connected (plugged on delivery)
X = Plugged (in normal operation)

Ordering code:

R810-063/10NRWK0E81-0

The permissible drive direction of the pump, Looking at the drive shaft: clockwise

Dimensions, size 107,125



Ports	Standard	Size	$p_{\max \text{ abs}} [\text{bar}]^{2)}$	State ⁵⁾	
A	Service line port	DIN ISO 228	G1; 18 deep	400	O
S	Suction port	DIN ISO 228	G1 1/4; 20 deep	2	O
R	Air bleed port	DIN 3852 ⁴⁾	M10 x 1, 8 deep	2	X ³⁾

- 1) Center bore according to DIN 332 (thread according to DIN 13)
- 2) Momentary pressure spikes may occur depending on the application. Keep this in mind when selecting measuring devices and fittings.
- 3) Only open port **R** for filling and air bleeding.
- 4) The spot face can be deeper than as specified in the appropriate standard.
- 5) O = Must be connected (plugged on delivery)
X = Plugged (in normal operation)

Ordering code:

R810-107/10NRWK0E81-0

R810-125/10NRWK0E81-0

The permissible drive direction of the pump, Looking at the drive shaft: clockwise

PRODUCT OVERVIEW

HYDRAULIC PUMPS FOR TRUCK APPLICATIONS

A focused range of bi-directional gear pumps and high-pressure bent-axis piston pumps.

GEAR PUMPS

Bi-directional | Working speed 600-3000 rpm



GP30F

ISO BI-DIRECTIONAL

12-18 cm³/rev

Peak pressure up to 320 bar



GP30F

UNI BI-DIRECTIONAL

12-18 cm³/rev

Peak pressure up to 320 bar



GP40F

ISO BI-DIRECTIONAL

25-75 cm³/rev

Peak pressure up to 280 bar



GP40M

UNI BI-DIRECTIONAL

25-45 cm³/rev

Peak pressure up to 315 bar



GP50M

ISO BI-DIRECTIONAL

45-115 cm³/rev

Peak pressure up to 280 bar



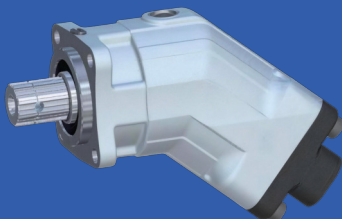
GP60M

ISO BI-DIRECTIONAL

85-125 cm³/rev

Peak pressure up to 315 bar

PISTON PUMPS



R8 SERIES

BENT-AXIS HYDRAULIC PISTON PUMP

Sizes 23-125 cm³/rev

Nominal / maximum pressure 350 / 400 bar

Direct mounting on truck PTO | No case drain line required



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