

PRODUCT DATASHEET

KFA PISTON PUMP RANGE

Bosch Rexroth bent-axis fixed displacement pumps, sizes 23 to 107 cm³, for direct mounting on truck power take-offs.

The KFA range is a family of bent-axis piston pumps built for commercial vehicles. A flange to ISO 7653 and a DIN ISO 14 style splined shaft let the pump bolt straight onto the gearbox PTO, with no bracket or drive shaft in between. Rated at 350 bar with peaks to 400 bar, the six sizes cover flows from 65 to 193 L/min for tippers, cranes, hook-loaders and refuse bodies. No case drain line is needed, and the direction of rotation can be changed on the bench by moving the pressure connection.



KFA PISTON PUMP — ISO 7653 FLANGE, SPLINED PTO SHAFT, REAR PORTS

350 bar

Nominal pressure,
400 bar peak

23–107 cm³

Displacement
per revolution

193 L/min

Maximum flow
(KFA 107)

96.5 kW

Maximum drive
power (KFA 107)

KEY FEATURES

- Bolts straight onto the truck PTO: ISO 7653 flange with Ø80 pilot and 8 × 32 × 35 splined shaft
- No case drain line: the housing is internally connected to the suction side
- Lightweight die-cast aluminium housing with low noise and strong suction performance
- 350 bar nominal, 400 bar peak, with high overall efficiency from the bent-axis design
- Direction of rotation changed in minutes by moving the pressure connection
- Six sizes, 22.9 to 106.7 cm³, with rear-facing BSPP pressure and suction ports

Ready to spec your pump?

Talk to us about sizing, PTO fitment, lead times and pricing.

CALL 01535 617880

EMAIL sales@cchdraulics.co.uk

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Range Overview

Choose a size by flow and torque, then check the full technical data for the whole KFA range.

RANGE SELECTION

Part No	Displacement	Max speed	Max flow	Max power	Torque @ 350 bar	Suction S	Pressure A	Weight
KFA 23	22.9 cm ³	2920 rpm	65 L/min	32.5 kW	128 Nm	G3/4	G1/2	5.8 kg
KFA 32	32 cm ³	2900 rpm	90 L/min	45 kW	178 Nm	G3/4	G1/2	5.8 kg
KFA 45	45.6 cm ³	2560 rpm	113 L/min	56.5 kW	254 Nm	G1	G3/4	8 kg
KFA 63	63 cm ³	2300 rpm	141 L/min	70.5 kW	351 Nm	G1	G3/4	9 kg
KFA 80	80.4 cm ³	2130 rpm	166 L/min	83 kW	448 Nm	G1 1/4	G1	11.6 kg
KFA 107	106.7 cm ³	1860 rpm	193 L/min	96.5 kW	594 Nm	G1 1/4	G1	14.5 kg

TECHNICAL DATA

Size	23	32	45	63	80	107
Displacement (cm ³ /rev)	22.9	32	45.6	63	80.4	106.7
Max speed (rpm)	2920	2900	2560	2300	2130	1860
Max flow (L/min) ²	65	90	113	141	166	193
Max drive power (kW) ¹	32.5	45	56.5	70.5	83	96.5
Torque at 300 bar (Nm)	109	153	218	301	384	509
Torque at 350 bar (Nm)	128	178	254	351	448	594
Rotary stiffness (Nm/rad)	304	304	435	520	771	806
Moment of inertia (kgm ²)	0.0012	0.0012	0.003	0.0042	0.0072	0.0116
Weight (kg)	5.8	5.8	8	9	11.6	14.5

¹ Values apply at absolute pressure at suction port S, operating on mineral oil; technical data are reduced at 0.8 bar absolute at port S. ² 3% flow loss included.

PERMISSIBLE AXIAL LOAD ON THE DRIVE SHAFT

Per bar operating pressure	23	32	45	63	80	107
+F _{ax} (N/bar)	+5.2	+5.2	+7.0	+8.7	+10.6	+12.9
-F _{ax} (N/bar)	-24	-33	-43	-53	-60	-71

-F_{ax} increases bearing life; +F_{ax} reduces bearing life. Radial forces on the drive shaft are not permissible.

SIZING FORMULAE

FLOW (L/min)

$$q_v = V_g \times n \times \eta_v / 1000$$

TORQUE (Nm)

$$T = V_g \times \Delta p / (20 \times \pi \times \eta_{mh})$$

POWER (kW)

$$P = q_v \times \Delta p / (600 \times \eta_t)$$

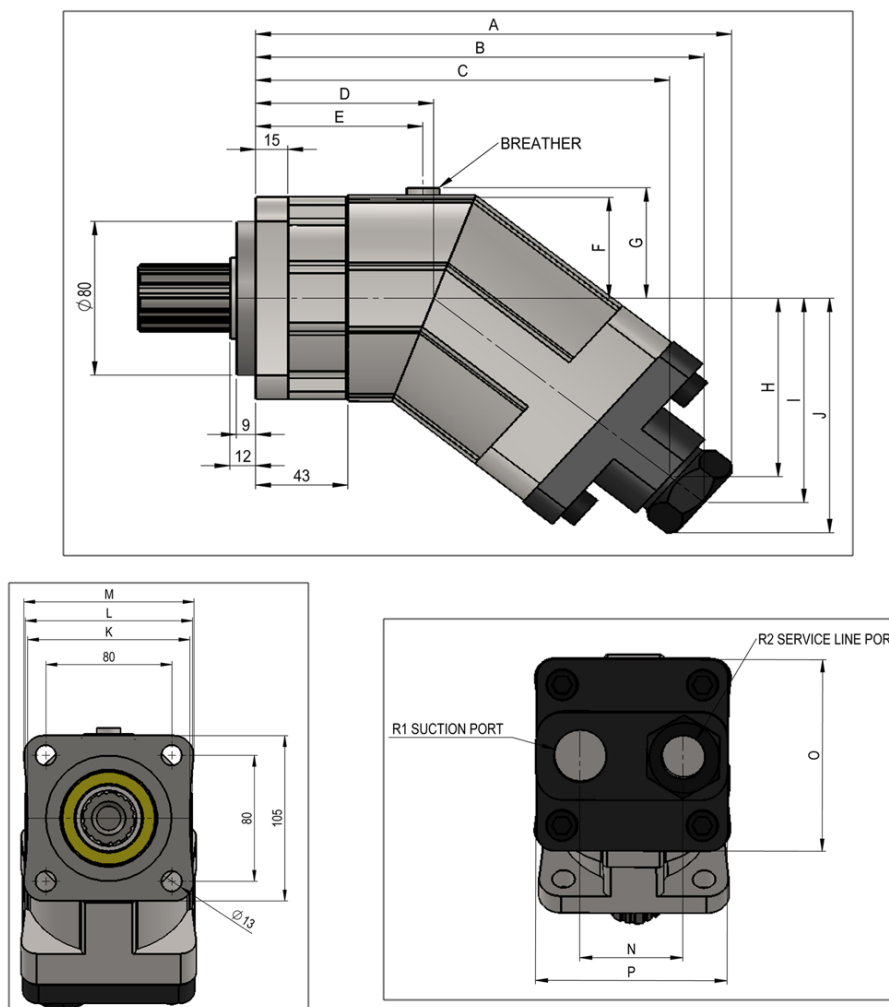
V_g displacement per rev (cm³) · Δp differential pressure (bar) · n speed (rpm) · η_v volumetric efficiency · η_{mh} mechanical-hydraulic efficiency · η_t overall efficiency (η_v × η_{mh})

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Installation Dimensions

Key dimensions for every size in the KFA range — all dimensions in millimetres. R1 and R2 are BSPP (G) port threads.

GENERAL ARRANGEMENT — KFA 23 TO 107



Part No	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	R1	R2
KFA 23, 32	185	173	159	68.5	61	53	58	76	88	103	98	—	108	51.8	88	88	3/4	1/2
KFA 45	223	210	194	88	78	58	63	89	102	119	98	103	108	58.8	108	108	1	3/4
KFA 63	232	219	203	88	78	58	63	96	110	126	98	103	108	64	108	108	1	3/4
KFA 80	261	245	227	102	92	67.5	—	105	120	140	96	107	114	69	117	117	1 1/4	1
KFA 107	272	256	238	102	92	73.5	68.5	114	129	149	96	107	120	77	129	129	1 1/4	1

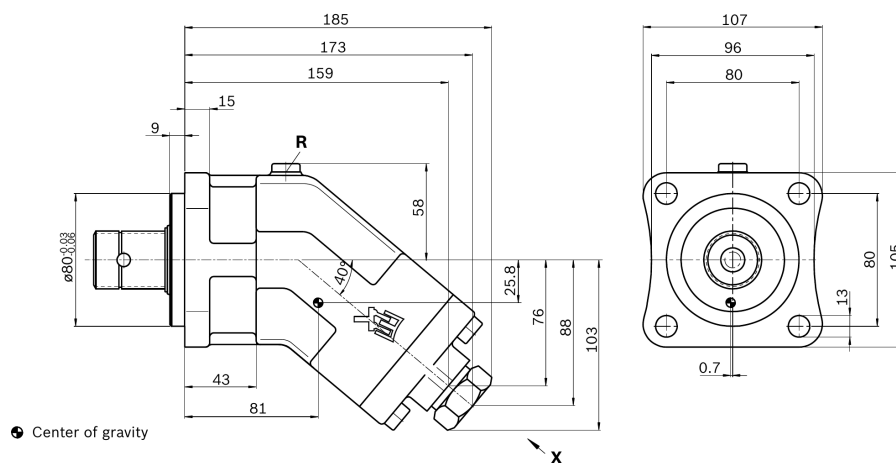
R1 = suction port S, R2 = service line (pressure) port A. Per-size drawings with full shaft and port details follow on pages 4 to 8.

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KFA 23 / 32 Dimensions

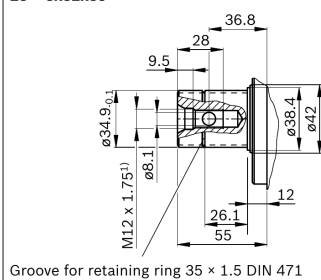
General arrangement of the KFA 23 and KFA 32 pumps, drive shaft and ports — all dimensions in millimetres unless noted.

GENERAL ARRANGEMENT — KFA 23 / 32

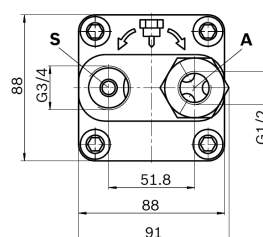


Drive shaft

Splined shaft similar to DIN ISO 14
E8 – 8x32x35



Detail X



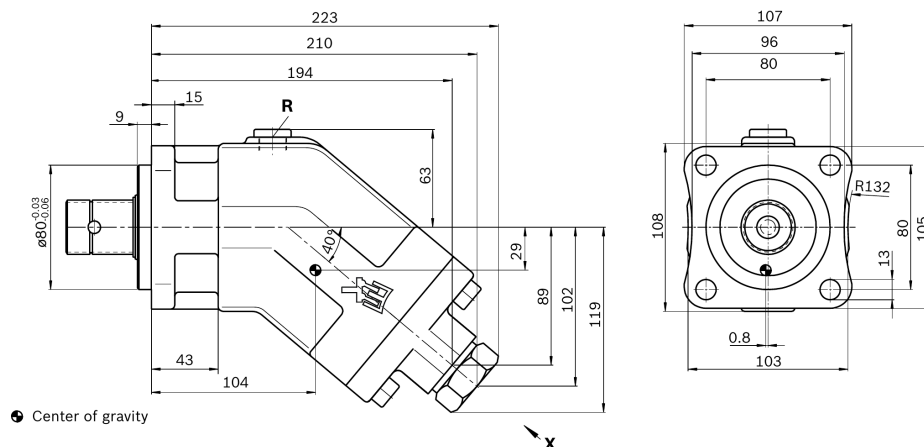
Reference	Dimension	Notes
Overall length (A)	185 mm	See range drawing, page 3
Displacement	22.9 / 32 cm ³ /rev	KFA 23 / 32
Max flow / max speed	65 / 90 L/min @ 2920 / 2900 rpm	3% flow loss included
Torque at 350 bar	128 / 178 Nm	109 / 153 Nm at 300 bar
Mounting flange	ISO 7653, ø80 pilot	4-hole truck PTO flange, 4 x ø13
Drive shaft	Spline 8 x 32 x 35	Similar to DIN ISO 14, M12 centre thread
Pressure port A	G1/2, 14 deep	BSPP to DIN ISO 228, 400 bar max.
Suction port S	G3/4, 16 deep	BSPP to DIN ISO 228, 2 bar abs. max.
Air-bleed port R	M10 x 1, 8 deep	Plugged in normal operation
Weight	5.8 / 5.8 kg	

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KFA 45 Dimensions

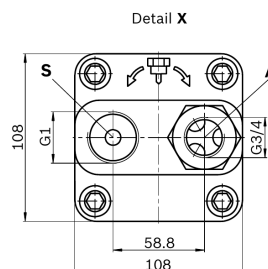
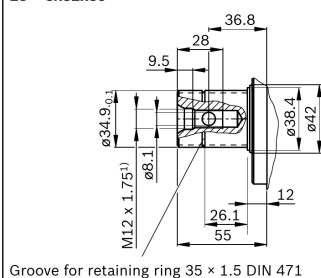
General arrangement of the KFA 45 pump, drive shaft and ports — all dimensions in millimetres unless noted.

GENERAL ARRANGEMENT — KFA 45



Drive shaft

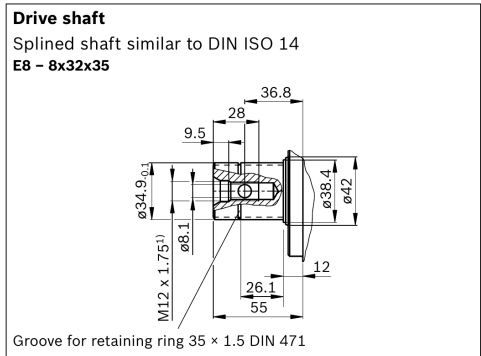
Splined shaft similar to DIN ISO 14
E8 – 8x32x35



Reference	Dimension	Notes
Overall length (A)	223 mm	See range drawing, page 3
Displacement	45.6 cm ³ /rev	Geometric, per revolution
Max flow / max speed	113 L/min @ 2560 rpm	3% flow loss included
Torque at 350 bar	254 Nm	218 Nm at 300 bar
Mounting flange	ISO 7653, ø80 pilot	4-hole truck PTO flange, 4 x ø13
Drive shaft	Spline 8 x 32 x 35	Similar to DIN ISO 14, M12 centre thread
Pressure port A	G3/4, 16 deep	BSPP to DIN ISO 228, 400 bar max.
Suction port S	G1, 18 deep	BSPP to DIN ISO 228, 2 bar abs. max.
Air-bleed port R	M10 x 1, 8 deep	Plugged in normal operation
Weight	8 kg	

KFA 63 Dimensions

GENERAL ARRANGEMENT — KFA 63

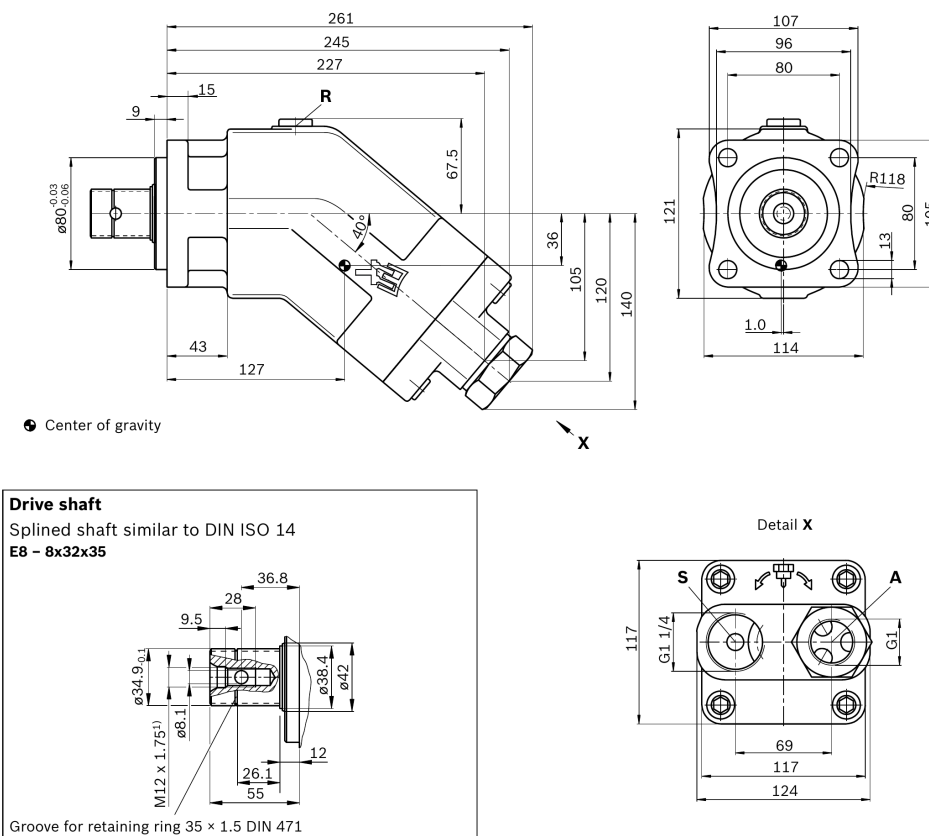
C & C Hydraulics Ltd — KFA Bent-Axis Piston Pump Range

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KFA 80 Dimensions

General arrangement of the KFA 80 pump, drive shaft and ports — all dimensions in millimetres unless noted.

GENERAL ARRANGEMENT — KFA 80

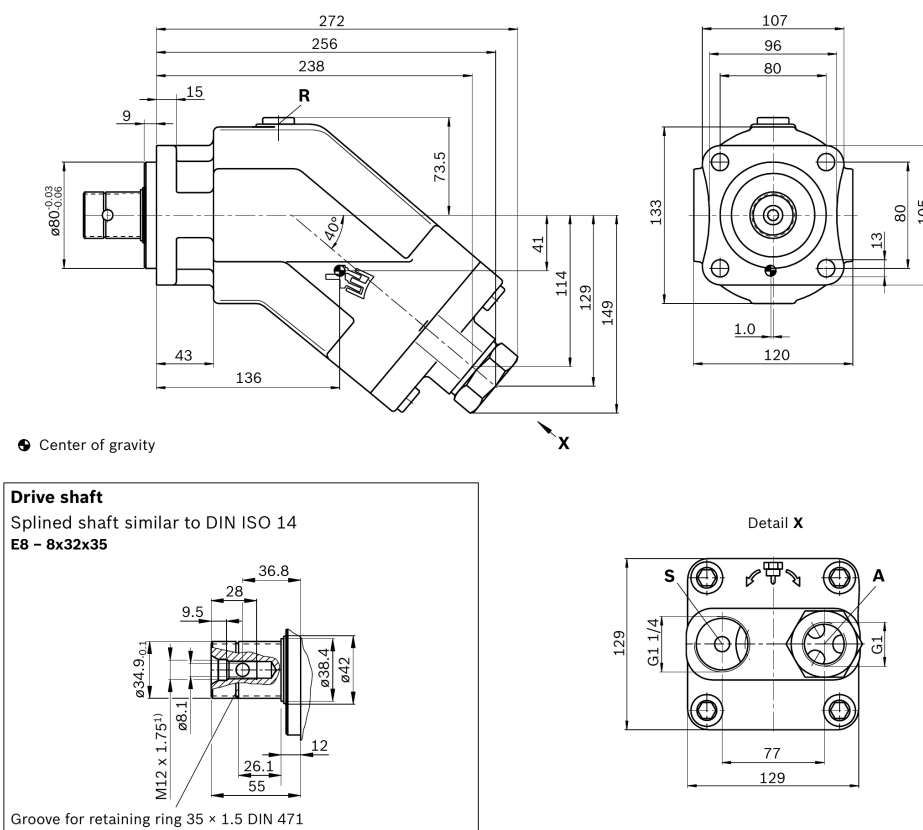


Reference	Dimension	Notes
Overall length (A)	261 mm	See range drawing, page 3
Displacement	80.4 cm ³ /rev	Geometric, per revolution
Max flow / max speed	166 L/min @ 2130 rpm	3% flow loss included
Torque at 350 bar	448 Nm	384 Nm at 300 bar
Mounting flange	ISO 7653, ø80 pilot	4-hole truck PTO flange, 4 x ø13
Drive shaft	Spline 8 x 32 x 35	Similar to DIN ISO 14, M12 centre thread
Pressure port A	G1, 18 deep	BSPP to DIN ISO 228, 400 bar max.
Suction port S	G1 1/4, 20 deep	BSPP to DIN ISO 228, 2 bar abs. max.
Air-bleed port R	M10 x 1, 8 deep	Plugged in normal operation
Weight	11.6 kg	

KFA 107 Dimensions

General arrangement of the KFA 107 pump, drive shaft and ports — all dimensions in millimetres unless noted.

GENERAL ARRANGEMENT — KFA 107



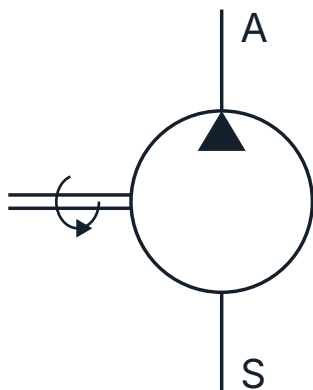
Reference	Dimension	Notes
Overall length (A)	272 mm	See range drawing, page 3
Displacement	106.7 cm ³ /rev	Geometric, per revolution
Max flow / max speed	193 L/min @ 1860 rpm	3% flow loss included
Torque at 350 bar	594 Nm	509 Nm at 300 bar
Mounting flange	ISO 7653, ø80 pilot	4-hole truck PTO flange, 4 × ø13
Drive shaft	Spline 8 × 32 × 35	Similar to DIN ISO 14, M12 centre thread
Pressure port A	G1, 18 deep	BSPP to DIN ISO 228, 400 bar max.
Suction port S	G1 1/4, 20 deep	BSPP to DIN ISO 228, 2 bar abs. max.
Air-bleed port R	M10 × 1, 8 deep	Plugged in normal operation
Weight	14.5 kg	

PRODUCT DATASHEET

Function & Specification

Hydraulic symbol, installation guidance and operating limits for the KFA range.

HYDRAULIC SYMBOL



Fixed displacement, one direction of flow

DRIVE SHAFT & FLANGE



DIRECTION OF ROTATION

Delivered for anti-clockwise drive viewed on the shaft (PTO turning clockwise), with the pressure connection in the right-hand port. To reverse, swap the pressure connection to the other port – suction and pressure sides change over with it.

BEFORE START-UP

Fill and air-bleed the pump via port S or R, and again after a long standstill. Keep suction at 0.8 bar abs. or above (max. suction height 800 mm) and tighten the pressure connection to the stated torque.

SPECIFICATION SUMMARY

Pump type	Bent-axis axial piston, fixed displacement, open circuit
Sizes	KFA 23, 32, 45, 63, 80, 107 (22.9 – 106.7 cm ³ /rev)
Operating pressure	350 bar nominal, 400 bar peak (max. 5 s single period)
Suction pressure, port S	0.8 to 2 bar absolute
Mounting	ISO 7653 truck PTO flange, splined shaft 8 × 32 × 35 (similar DIN ISO 14)
Hydraulic fluid	HLP mineral oil to DIN 51524; 10 – 400 mm ² /s, optimum 16 – 36 mm ² /s
Fluid temperature	–25 °C to +103 °C at air-bleed port R; FKM shaft seals
Filtration	ISO 4406 20/18/15 minimum (19/17/14 above 90 °C)
Not included	Suction stud and PTO coupling flange, order separately

Ready to spec your pump?

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