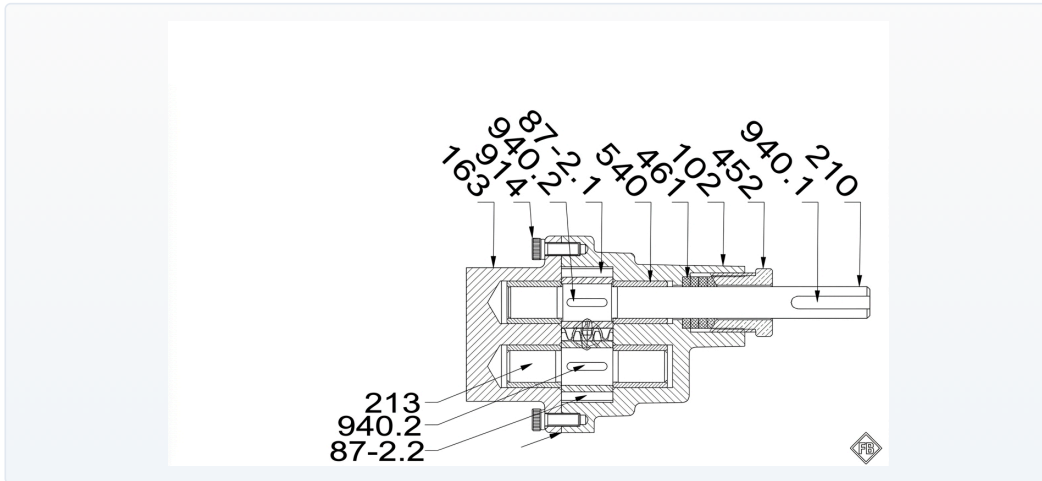


External Gear Pumps

Series: FBE



Application

Engineered to handle viscous fluids across a wide range of industrial applications — chemicals, petrochemicals, pulp & paper, steel, mining, food processing, textiles, pharmaceuticals and water treatment.

General Description

Foot-mounted casing with shafts supported on bearings and helical-tooth gears mounted one above the other — designated as the driving gear and the driven gear. Sealing is selected according to the pumped fluid and is housed in the front region of the pump.

DENOMINATION

FBE 2"

- **FB** Brand
- **E** Model (External Gear)
- **2"** Nominal diameter of suction & discharge port (inches)

OPERATING DATA

SIZES	FLOW RATE	HEAD	TEMPERATURE	SPEED
DN 1/8" – 6"	up to 390 m ³ /h	up to 220 m	up to 350 °C	1750 rpm

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01	Quick Selection Table	3
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01 Quick Selection Table

1.1 Viscosity below 1000 SSU — 60 Hz

For each model, the top row shows flow in **l/min** and the bottom row shows required power in **CV**, at the corresponding discharge pressure in **kgf/cm²**.

Model	RPM	Flow / Power	Discharge pressure (kgf/cm ²)										
			2	4	6	8	10	12	14	16	18	20	22
FBE 1/8"	1150	l/min	3.5	3.4	3.3	3.2	3.1	3	2.9	2.8	2.7	2.6	2.5
		CV	0.05	0.07	0.08	0.11	0.13	0.15	0.16	0.21	0.24	0.27	0.3
FBE 1/8"	1750	l/min	5.15	5	4.85	4.7	4.55	4.4	4.25	4.1	3.95	3.8	3.65
		CV	0.07	0.09	0.14	0.17	0.19	0.21	0.25	0.29	0.35	0.4	0.45
FBE 1/4"	1150	l/min	6	5.9	5.8	5.7	5.6	5.5	5.4	5.3	5.2	5.1	5
		CV	0.1	0.14	0.18	0.22	0.26	0.3	0.34	0.42	0.5	0.54	0.6
FBE 1/4"	1750	l/min	8.9	8.7	8.5	8.3	8.1	7.9	7.7	7.4	6.6	—	—
		CV	0.15	0.2	0.28	0.33	0.39	0.45	0.54	—	—	—	—
FBE 3/8"	1150	l/min	9.5	9.4	9.3	9.2	9.1	8.9	8.6	8.2	7.7	6.6	5.9
		CV	0.15	0.17	0.23	0.42	0.52	0.6	0.76	0.83	1.02	1.3	1.7
FBE 3/8"	1750	l/min	14	13.9	13.8	13.6	13.4	13.1	12.7	12.1	11.4	—	—
		CV	0.18	0.22	0.32	0.54	0.67	0.8	0.97	1.09	1.27	—	—
FBE 1/2"	1150	l/min	12	11.9	11.7	11.5	11.1	11	10.8	10.2	9	8.2	—
		CV	0.3	0.4	0.45	0.52	0.75	0.83	0.92	1	1.4	2.2	—
FBE 1/2"	1750	l/min	17.7	17.5	17.3	17.1	16.8	16.4	16	15.4	—	—	—
		CV	0.39	0.52	0.65	0.8	0.97	1.14	1.34	1.72	—	—	—
FBE 3/4"	1150	l/min	30	29.5	29	28	27	26.5	26	25	24	23	22
		CV	0.4	0.5	0.75	1	1.4	1.75	2	2.3	2.7	3.2	3.5
FBE 3/4"	1750	l/min	42	41.5	41	40.5	40	39	38	37	36	—	—
		CV	0.4	0.5	0.75	1	1.5	2	2.5	3	3.5	—	—
FBE 1"	1150	l/min	42	41.5	41	40.5	40	39	38	37	36	35	34
		CV	0.4	0.5	0.75	1	1.5	2	2.5	3	3.5	4	4.5
FBE 1"	1750	l/min	60	—	58	—	56	—	54	—	52	—	50
		CV	0.5	—	0.9	—	1.5	—	2.3	—	3.5	—	5
FBE 1" A	1150	l/min	50	49	48	47	45.5	44	42	40	38	35	33
		CV	0.75	1	1.5	2	2.5	3	3.7	4	4.5	6	7.5
FBE 1" A	1750	l/min	74	72.5	71	69	67	65	63	60	57	54	51
		CV	1	1.6	2.5	3	3.7	4.5	5.2	6	7	8	10
FBE 1" D	1150	l/min	60	59.5	59	58.5	58	57	56	55	54	52	48
		CV	0.75	1	1.5	2	2.5	3	3.7	4.5	5.2	6	7
FBE 1" D	1750	l/min	88.6	88	87.3	86.5	85.8	84.9	83.8	—	—	—	—
		CV	0.75	1	1.5	2	3	3.9	4.9	—	—	—	—
FBE 1" DA	1150	l/min	75	74	73	71.5	70	68.5	67	65	63	61	59
		CV	1	1.5	2	2.5	3	3.7	4.5	5.2	6	7.2	8.5
FBE 1" DA	1750	l/min	112	110	108	106	104	101	98	—	—	—	—
		CV	1	1.5	2	3.5	4	4.9	5.9	—	—	—	—
FBE 1.1/2" · 1.1/2" CA	1150	l/min	100	99	98	97	95	91	88	—	—	—	—
		CV	3	4	5	7	8	9	10	—	—	—	—
FBE 1.1/2" · 1.1/2" CA	850	l/min	70	69	68	67	66	64	62	60	—	—	—
		CV	1.5	2	2.4	3	3.5	4	4.5	—	—	—	—
FBE 1.1/2" A · 1.1/2" CA A	1150	l/min	133	131	129	127	125	123	121	119	117	—	—
		CV	3.5	4	5	6	7.5	8.7	9.5	10.4	—	—	—
FBE 1.1/2" A · 1.1/2" CA A	850	l/min	94	92	90	88	86	84	82	—	—	—	—
		CV	1.75	2	2.5	3.1	3.8	4.4	4.75	5.2	—	—	—
FBE 2" · 2" CA	1150	l/min	200	198	196	194	192	190	188	186	—	—	—
		CV	4.5	6	7	8	9	11	13	15.5	—	—	—

The pump models listed below also cover the "A", "CA" and "CA-A" variants.

Viscosity (SSU)	Speed (rpm)	Transmission	Models
30 to 250	1750	Direct	FBE 1/8" · 1/4" · 1/2" · 3/4" · 1" · 1" D
250 to 2500	1150	Direct	FBE 1/8" · 1/4" · 1/2" · 3/4" · 1" · 1" D · 1.1/2" · 2" · 3" · 4" · 5"
2500 to 7500	850	Direct	FBE 1/2" · 3/4" · 1" · 1" D · 1.1/2" · 2" · 3" · 4" · 5" · 6"
7500 to 10 000	700 – 500	Pulley or reducer	FBE 1.1/2" · 2" · 3" · 4" · 5" · 6"
10 000 to 50 000	500 – 300	Pulley or reducer	FBE 1.1/2" · 2" · 3" · 4" · 5" · 6"
50 000 to 100 000	300 – 150	Pulley or reducer	FBE 3" · 4" · 5" · 6"

Table 2 – Technical information

Pressure (kgf/cm ²)	Viscosity (SSU)										
	1000	3000	5000	7000	9000	10 000	30 000	50 000	70 000	100 000	250 000
3	26	20	18	16	15.5	15	11	10	9.5	9	6
7	40	32	28	25.5	25	25	20	17	16	15	14
11	43	38	35	34	32	30	25	22	21	20.5	20
15	45	42	40	37	36	35	30	28	26	25	22

Table 3 – Technical information

The values listed below are recommended as the power reserve when selecting commercial motors.

Rated Power (BHP)	Up to				
	2 CV	3 – 5 CV	6 – 10 CV	11 – 25 CV	Above 25 CV
Power reserve	50 %	30 %	25 %	15 %	10 %

Table 4 – Technical information

1.2 Nomenclature

- A** Gear with larger diameter
- CA** With heating chamber
- D** Gear with longer length
- DA** Gear with longer length and larger module
- M9** Gear with module 9
- M6** Gear with module 6
- M8** Gear with module 8
- M12** Gear with module 12

02 Technical Data

Construction data	Unit	Size															
		1/8"-1/4"	3/8"-1/2"	3/4"	1"	1"A	1"D	1"DA	1.1/2"	1.1/2"A	2"	2"A	3"	3"M9	4"M6	4"M8	4"M12
Ø gear	mm	27	39	49	49	49	49	49	68	72	68	72	103	108	115	117	120
Gear length	mm	19	19	32	42	42	100	100	60	60	60	60	65	65	75	90	90
No. of teeth	—	15	9	11	11	8	11	8	14	10	14	10	11	9	16	12	8
Gear type	—	Helical										Bi-helical					
Total gear count	—	2 (1 driving & 1 driven)										4 (2 driving & 2 driven)					
Max. speed	rpm	1750										1150					
Max. suction pressure	kgf/cm ²	22					14			12		8			6		
Temp. min./max. — gasket seal	°C	-50 to 450															
Temp. min./max. — mechanical seal	°C	Per manufacturer recommendation															
Direction of rotation	—	Clockwise with anti-clockwise option (viewed from the drive end)															
Connections	—	BSP with NPT option										With threaded BSP counter-flange and NPT option					
Flanges (optional) cast iron	—	Not applicable										ANSI B16.1 FF					
Flanges (optional) ductile iron	—	With adaptable flange ANSI B16.42 RF										ANSI B16.42 RF					
Flanges (optional) steel & stainless	—	With adaptable flange ANSI B16.5 RF										ANSI B16.5 RF					
Hydrostatic test pressure	kgf/cm ²	10															
Ø standard shaft	mm	12	14.29	15.87			23			34			44				
Ø mechanical seal	in	5/8"	5/8"			7/8"			1.3/8"			1.3/4"					
Ø shaft for external bearing	mm	12	15			22.22			31.7			40					
Gasket	in	1/8"	1/4"										3/8"				

Component	Cast iron (FoFo)	Ductile iron	Carbon steel	Stainless steel	Bronze
Casing	ASTM A48 CL30	ASTM A536 60-40-18	ASTM A216 WCB	ASTM A744 CF8M	ASTM B584 C83600 / ASTM B62 / SAE 40
Cover — front / rear	ASTM A48 CL30	ASTM A536 60-40-18	ASTM A216 WCB	ASTM A744 CF8M	ASTM B584 C83600 / ASTM B62 / SAE 40
Gasket (cover sealing)	Bronze TM 23	Graphite	Graphite	Teflon	Teflon
Driving shaft	SAE 1045	SAE 1045	SAE 4140	AISI 316	AISI 316
Driven shaft	SAE 1045	SAE 1045	SAE 4140	AISI 316	AISI 316
Driving gear	SAE 8620	SAE 8620	SAE 8620	AISI 316	SAE / AISI 53
Driven gear	SAE 8620	SAE 8620	SAE 8620	AISI 316	SAE / AISI 53
Parallel key	Aço 5	Aço 5	Aço 5	AISI 304	AISI 304
Retainer ring	Aço 5	Aço 5	Aço 5	AISI 304	AISI 304
Bushing	Graphite	Graphite	Graphite	Graphite	Per application
Gasket-type sealing	AFA	AFA	AFA	PTFE	PTFE
Mechanical seal	As per application				
Pin	Aço 10	Aço 10	Aço 10	AISI 304	AISI 304
Stud	SAE 1010	SAE 1010	SAE 1010	AISI 304	AISI 304
Nut	SAE 1010	SAE 1010	SAE 1010	AISI 304	AISI 304
Flange	SAE 1020	AISI 304	AISI 304	AISI 304	AISI 304
Counter-flange	SAE 1020	ASTM A105	ASTM A105	ASTM A182 F-316	ASTM B62 / B148 C95500

Table 6 — Standard list of materials

Note: Made-to-order pumps follow the gears as SAE 8620, and for bronze pumps with SAE 8640 the material is replaced in accordance with the intended application.

2.1 Pump casing

One-piece body with feet, covers and bores machined 180°.

2.2 Gears

The gears are manufactured with helical teeth, forming a driving and a driven assembly mounted one above the other.

2.3 Shaft

The shafts are supported on bushings and ensure both the sealing and the alignment of the gasket, bushings and mechanical seal. The possible option is the front region of the pump. For pumps with solids in suspension the bushings should be consulted with FB.

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2.4 Gasket

The gasket installed in the casing is pressed by the cover stud with tight compression and regulated per gasket characteristics.

2.5 Mechanical seal

The mechanical and pressurised seal adopted (lodgement or cartridge-style) is an FB specification suitable for use up to Stage 21 of the material + graphite or graphite with the Viton axis standard AISI 304.

2.6 Retainer

The retainers installed in the pump are mounted on the rear cover of the pump in the pump sealing region, preventing oil leakage.

2.7 Magnetic coupling

Sealing specially engineered for applications where no leakage is permitted — pumping of corrosive, toxic, explosive or highly valuable fluids. Mounted on the pump casing, with side-flange fabrication and a special spacer coupling between the two models, the couples are intermediate with the fluid not circulating, above the intermediate cap, grafted into the pump shaft. The pump is sealed continuously above the inner cup fixed to the pump shaft mounted on the intermediate cup.

2.8 Bearings

Bushings or ball bearings are supplied according to the pump size and application.

2.9 Suction & discharge ports

The type of thread provided on the suction and discharge ports is internal BSP for FBE 1/8" to 1" pumps. For FBE 1.1/2" to 6" pumps they are supplied with their own threaded port to suit the flanges in accordance with ANSI B16.1 125 lbs for ductile iron. For cast iron, they are supplied as classes and standards in accordance with the application of the pumped fluid.

I 03 Accessories

Drive	Electric motor or combustion.
Coupling	Flexible coupling with an FB-pattern spacer, or by other manufacturers.
Coupling guard	FB-pattern guard in carbon steel with anti-chipping material.
Base plate	Structural-steel base with "U" profile, welded in a single piece.
Identification plate	Aluminium or stainless steel material.

04 Section View & Parts Lists

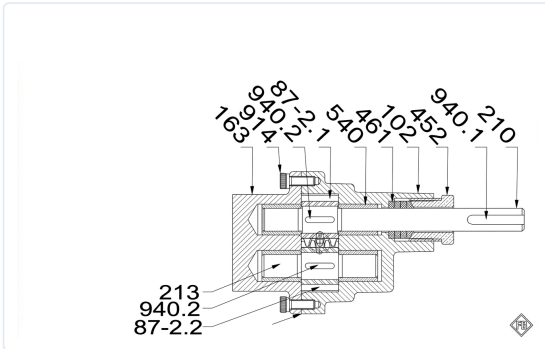


Figure 1 – Section view, FBE 1/8"–1/4" pump with gasket

PART NO.	DESCRIPTION	QTY
102	Casing	1
163	Front cover	1
210	Driving shaft	1
213	Driven shaft	1
400.1	Gasket (cover seal)	1
452	Gasket compression ring	1
461	Gasket (packing)	4
540	Bushing	4
87-2.1	Driving gear	1
87-2.2	Driven gear	1
914	Countersunk head screw	6
940.1	Parallel key	1
940.2	Parallel key	2

Table 7 – FBE 1/8"–1/4" parts list with gasket

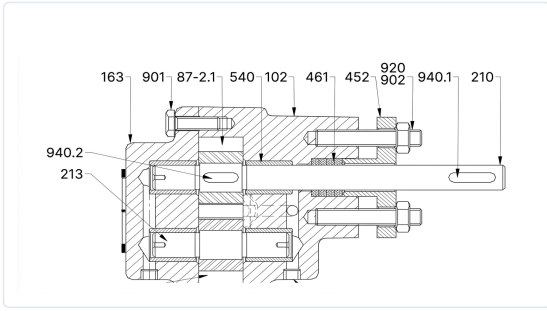


Figure 2 — Section view, FBE 3/8"-1/2"-3/4"-1" with gasket

PART NO.	DESCRIPTION	QTY
102	Casing	1
163	Front cover	1
210	Driving shaft	1
213	Driven shaft	1
400.1	Gasket (cover seal)	2
452	Gasket compression ring	1
461	Gasket (packing)	4
540	Bushing	4
560	Pin	2
87-2.1	Driving gear	1
87-2.2	Driven gear	1
901	Countersunk stud	6
902	Stud	2
912	Plug	2
920	Hex nut	2
940.1	Parallel key	1
940.2	Parallel key	2

Table 8 — FBE 3/8"-1/2"-3/4"-1" parts list with gasket

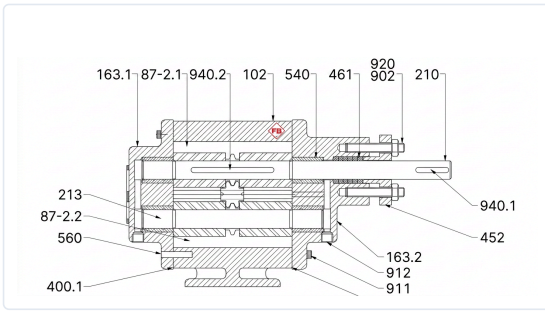


Figure 3 – Section view, FBE 1"D-1"DA with gasket

PART NO.	DESCRIPTION	QTY
102	Casing	1
163.1	Front cover	1
163.2	Rear cover	1
210	Driving shaft	1
213	Driven shaft	1
400.1	Gasket (cover seal)	2
452	Gasket compression ring	1
461	Gasket (packing)	4
540	Bushing	4
560	Pin	4
87-2.1	Driving gear	1
87-2.2	Driven gear	1
901	Countersunk stud	16
902	Stud	2
912	Plug	2
920	Hex nut	2
940.1	Parallel key	1
940.2	Parallel key	2

Table 9 – FBE 1"D-1"DA parts list with gasket

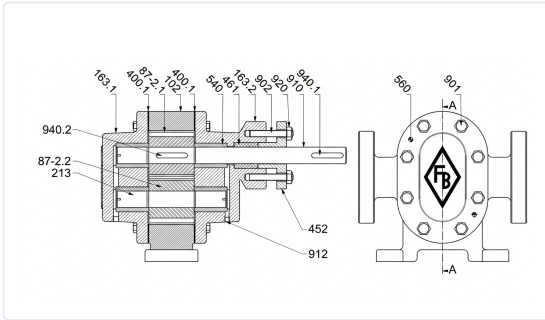


Figure 4 — Section view, FBE 1.1/2"–2"–3" with gasket

PART NO.	DESCRIPTION	QTY
102	Casing	1
163.1	Front cover	1
163.2	Rear cover	1
210	Driving shaft	1
213	Driven shaft	1
400.1	Gasket (cover seal)	2
452	Gasket compression ring	1
461	Gasket (packing)	5
540	Bushing	4
560	Pin	4
87-2.1	Driving gear	(1)
87-2.2	Driven gear	(1)
901	Countersunk stud	16
902	Stud	2
912	Plug	2
920	Hex nut	2
940.1	Parallel key	(2)
940.2	Parallel key	(3)

Table 10 — FBE 1.1/2"–2"–3" parts list with gasket

- (1) For FBE 1.1/2" the quantity is 2 pieces for FBE 2" and 3" the quantity is 2 pieces.
- (2) For FBE 1.1/2" and 2" the quantity is 1 piece for FBE 3" the quantity is 2 pieces.
- (3) For FBE 1.1/2" without the key, for FBE 2" and 3" the quantity is 1 piece.

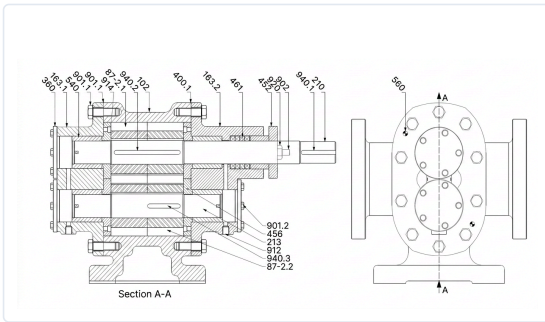


Figure 5 — Section view, FBE 4" M6-M8-M12

PART NO.	DESCRIPTION	QTY
102	Casing	1
163.1	Front cover	1
163.2	Rear cover	1
210	Driving shaft	1
360	Cover	1
400.1	Gasket (cover seal)	2
452	Gasket compression ring	1
456	Relief-valve reducer (1)	1
461	Gasket (packing)	5
540	Bushing	4
560	Pin	4
87-2.1	Driving gear	4
87-2.2	Driven gear	2
901.1	Countersunk stud	20
901.2	Countersunk stud	2
902	Stud	2
912	Plug	2
914	Counter-flange stud	12
920	Hex nut	2
940.1	Parallel key	1
940.2	Parallel key	2

Table 11 — FBE 4" M6-M8-M12 parts list with gasket

(1) Used only on the FBE 4" M6 pump.

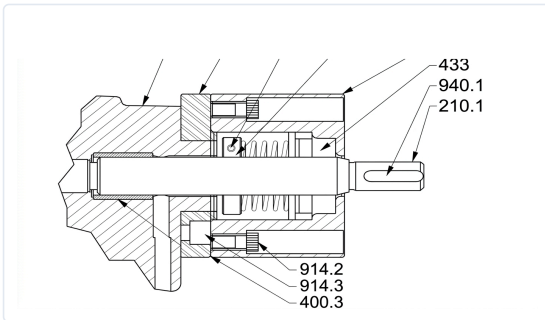


Figure 6 — Section view, FBE pump with mechanical seal

PART NO.	DESCRIPTION	QTY
102.2 / 163.3	Casing / Front cover (1)	1
210.1	Driving shaft / seal mech.	1
433	Mechanical seal	1
471	Backing ring	1
574	Spring cover	1
540.2	Bushing for mech. seal	1
723	Flange	1
914.2	Hex. socket head screw	4
914.3	Hex. socket head screw	1
916	Hex. socket head screw	3
940.1	Parallel key	1

Table 12 — FBE parts list with mechanical seal

(1) For FBE 1/8" to 1" pumps, use the rear cap — FBE 1" D to 4" pumps use the rear cap.

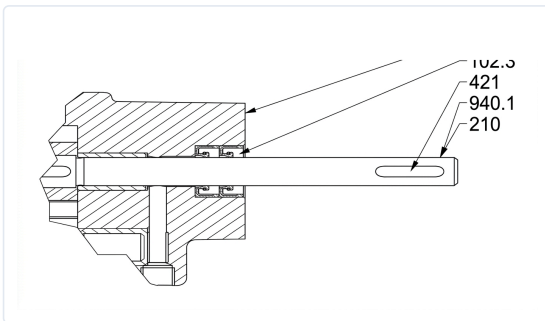


Figure 7 — Section view, FBE pump with retainer seal

PART NO.	DESCRIPTION	QTY
102.2 / 163.4	Casing / Front cover (1)	1
210	Driving shaft	1
421	Retainer	2
940.1	Parallel key	1

Table 13 — FBE parts list with retainer seal

(1) For FBE 1/8" to 1" pumps, use the rear cap — FBE 1" D to 4" pumps use the rear cap.

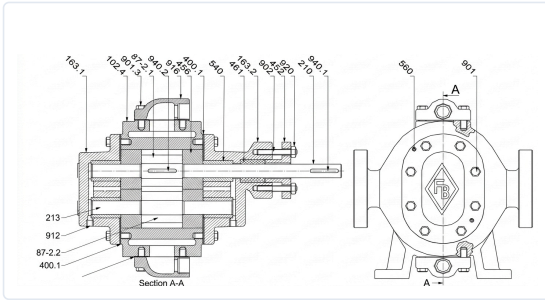


Figure 8 — Section view, FBE 1.1/2", 2", 3" or 4" M6 CA pump with heating chamber

PART NO.	DESCRIPTION	QTY
102.4	Casing with chamber	1
163.1	Front cover	1
163.2	Rear cover	1
210	Driving shaft	1
213	Driven shaft	1
400.1	Gasket (cap / casing)	2
400.2	Gasket (chamber / casing)	2
452	Gasket compression ring	1
456	Relief-valve reducer	1
461	Gasket (packing)	4
540	Bushing	4
560	Pin	4
87-2.1	Driving gear	(1)
87-2.2	Driven gear	(1)
901	Countersunk stud	16
902	Stud	2
912	Plug	2
920	Hex nut	2
940.1	Parallel key	(2)
940.2	Parallel key	(3)

Table 14 — FBE parts list 1.1/2", 2", 3" or 4" M6 CA

(1) Used only on FBE 1.1/2", 3" and 4" M6 CA pumps.

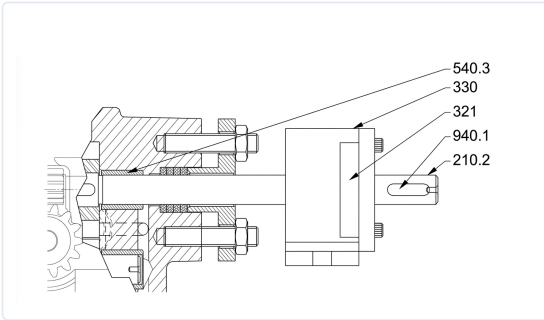


Figure 9 – Section view, FBE pump with external bearing

PART NO.	DESCRIPTION	QTY
210.2	Driving shaft / ext. bearing	1
330	Bearing housing	1
321	Ball bearing	1
540.3	Bushing / bearing (1)	1
910.1	Parallel key	1

Table 15 – FBE parts list – external bearing

(1) Used only on FBE 3/4" to 1" pumps.

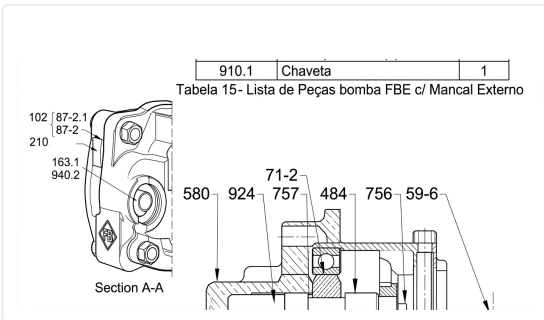


Figure 10 – Section view, FBE pump with relief valve

PART NO.	DESCRIPTION	QTY
484	Spring retainer	1
580	Valve body	1
59-6	Stem	1
71-2	Boss	1
756	Spring	1
757	Command cap	1
924	Command nut	1

Table 16 – FBE parts list – relief valve

Note: Use gasket (1) per valve.
 Parts numbering per DIN EN 24250 standard.

05 Auxiliary Connections

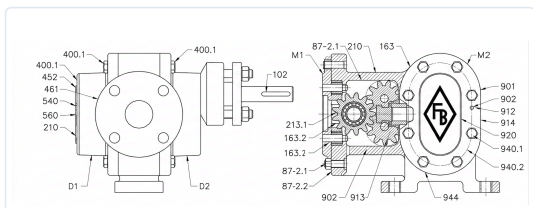


Figure 11 – Connection indications

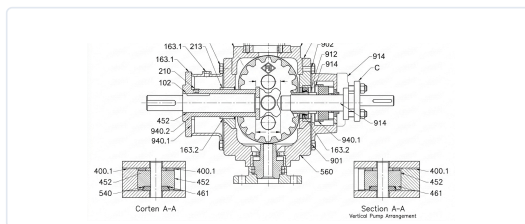


Figure 12 – Connection indications

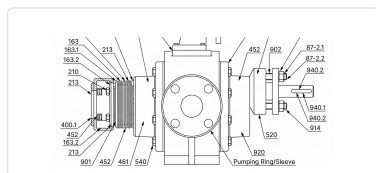


Figure 13 – Heating-chamber flow direction

Connection	Designation	3/8" - 1/2" - 3/4" - 1"	1.1/2"	2"	3"	4"
D1	Drain	1/4" BSW	5/16" BSW	5/16" BSW	5/16" BSW	1/4" NPT
D2	Drain	1/4" BSW	5/16" BSW	5/16" BSW	5/16" BSW	1/4" NPT
D3	Gland drain (1)	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT
M1	Measuring port (1)	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT
M2	Measuring port (1)	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT
C1	Heating-chamber inlet (2)	*	3/8" BSP	1/2" BSP	1/2" BSP	1/2" BSP
C2	Heating-chamber outlet (2)	*	3/8" BSP	1/2" BSP	1/2" BSP	1/2" BSP
F1	Packing flush (1)	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT
Q1	Heat tracing (1)	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT

Table 17 – Thread dimensions

- (1) To be defined in accordance with the application and supply request.
- (2) These designations cannot be replaced by the supply of interlocking parts for installation.

I 06 Dimensional

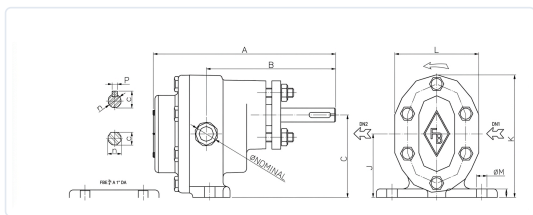


Figure 14 – Dimensional drawing

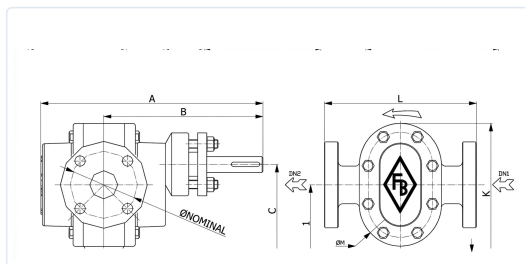


Figure 15 – Dimensional drawing

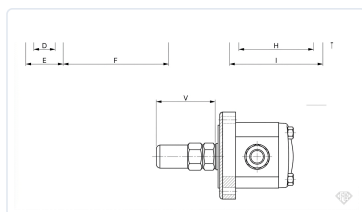


Figure 16 – Dimensional drawing

MEASUREMENTS IN MILLIMETRES (MM)

Model	Ø nom.	A	B	C	D	E	F	G	H	I	J	K	L	M	n	o	p	V	Weight (kg)
FBE 1/8"	1/8"	148.5	102	49	13	26	85.5	7	45	65	37	74	50	2×Ø8	12	11	*	38	1.9
FBE 1/4"	1/4"	148.5	102	49	13	26	85.5	7	45	65	37	74	50	2×Ø8	12	11	*	38	1.9
FBE 3/8"	3/8"	163	115.5	75	15	33	94.5	12	80	108	59	109	75	2×Ø9.5	12	14.3	3/16"	56	2.7
FBE 1/2"	1/2"	163	115.5	75	15	33	94.5	12	80	108	59	109	75	2×Ø9.5	12	14.3	3/16"	56	2.7
FBE 3/4"	3/4"	205	144	104	32	55	109	10	102	130	83	147	110	4×Ø9	9/16"	16.6	3/16"	59	6.5
FBE 1" · 1" A	1"	219	154	104	32	55	115	10	102	130	83	147	110	4×Ø9	9/16"	16.6	3/16"	59	6.7
FBE 1" D · 1" DA	1"	273	184	104	52	80	144	11	90	115	83	146	110	4×Ø8.7	5/8"	17.6	3/16"	59	11.5
FBE 1.1/2" · 1.1/2" A	1.1/2"	324	232	145	40	70	197	16	140	175	115	205	222	4×Ø14	23	26.15	1/4"	64	26
FBE 1.1/2" CA · 1.1/2" CA A	1.1/2"	374.9	252.9	177	80	114	195.9	15	164	199	147	290	255	4×Ø14	23	26.15	1/4"	64	40
FBE 2" · 2" A	2"	382	260	145	70	110	205	20	150	190	115	205	228	4×Ø14	23	26.15	1/4"	64	39
FBE 2" CA · 2" CA A	2"	382	260	165	80	115	202.5	15	164	200	135	267	263	4×Ø14	23	26.15	1/4"	64	43
FBE 3" · 3" M9	3"	429	290	170	80	120	230	18	180	220	125.2	248	324	4×Ø18	32	34.97	5/16"	72	70
FBE 3" CA · 3" CA M9	3"	449	300	226.8	86	140	230	18	210	260	182	360	330	4×Ø18	32	34.97	5/16"	72	83
FBE 4" M6	4"	583	390	251.5	194	240	269	35	214	270	200	347	361	4×Ø18	42	46	9.5	72	130
FBE 4" M8-M12	4"	583	390	250.7	194	240	269	35	214	270	200	347	361	4×Ø18	42	46	9.5	72	130
FBE 4" M6-M8-M12 CA	4"	583	390	260.7	110	170	304	20	260	310	2110	418.7	360	4×Ø18	42	46	9.5	72	148

Table 18 – Dimensions



FB

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