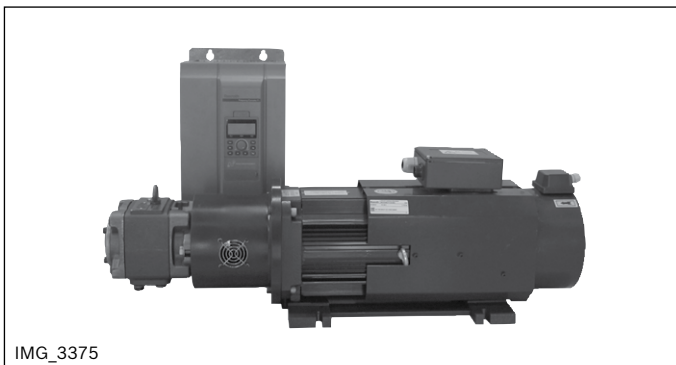


Servo-variable pump drive system Sytronix SvP 5010

Type SvP 5010

RE 62235

Edition: 2014-07



► Nominal flow 80 ... 190 l/min

Features

- Servo-variable pump drive system consisting of:
 - Motor-pump-unit
 - Frequency converter
 - Pressure transducer kit
 - Accessories such as: cables, braking resistor, brake chopper and mains throttle
- Special pressure controller software with automatic switch-over between closed-loop speed and pressure control.
- The software has been especially optimized for the requirements of the injection molding machine.
- Simple conversion from conventional pump drive systems to pressure and volume control by comparable interfaces.
- High accuracy and dynamics in volume and pressure control.
- High energy efficiency.
- Minimum noise level due to pump design and speed adjustment.
- Pump drive system with optimized dynamics has been designed for use with a power supply of maximum 380 V

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Information on available spare parts:
www.boschrexroth.com/spc

Ordering code

01	02	03	04	05	06	07	08	09	10	11	12	13	14							
SYT	-	SVP	50	10	-	PGM		-	S	-	REA		A		-	FV	-		-	

System	Product line		
	01	Sytronix	SYT
	02	Product family	SVP
	Serie		
	03	Frequency Converter	50
	04	Generation	10
Pump	05	Pump technology	PGM
	System flow (LPM at 2,500 or 2,400 1/min)		
	06	80 l/min	80
		100 l/min	100
		120 l/min	120
		150 l/min	150
		190 l/min	190
	Coupling		
	07	Standard	S
	Motor/system pressure/controller	Motor technology	
08		Servo-Asynchronous = MAS	REA
Rated speed (motor winding)			
09		1500	F
		1750	G
		2000	H
Motor cooling			
10		Forced cooling (IC 416)	A
11		Nominal pressure Motor-pump unit ¹⁾ in bar	XXX
Controller			
12		Rexroth Fv	FV
13		Performance level in % (<i>I</i> _{cont, Fv} / <i>I</i> _{cont, motor})	xxx
Other design			
14		3 m power and encoder cable	0001
	5 m power and encoder cable	0002	

Order example:**SYT-SVP5010-PGM120-S-REAGA127-FV122-0001**

Please contact your Bosch Rexroth account manager regarding the selection of a pump drive system suitable for your application. The same applies to the selection of the systems or components for any other performance range.

¹⁾ Without considering the efficiency ratio of the pumps

Preferred types

SvP 5010 set - 3 m cable (with -0001)

Material no.	S Serie ¹⁾
R912004923	SYT-SVP5010-PGM080-S-REAGA140-FV124-0001 (80S)
R912004924	SYT-SVP5010-PGM100-S-REAHA112-FV130-0001 (100S)
R912004925	SYT-SVP5010-PGM120-S-REAGA127-FV122-0001 (120S)
R912004926	SYT-SVP5010-PGM150-S-REAGA120-FV142-0001 (150S)
R912004927	SYT-SVP5010-PGM190-S-REAF126-FV147-0001 (190S)

SvP 5010 set - 5m cable (with -0002)

Material no.	S Serie ¹⁾
R912005319	SYT-SVP5010-PGM080-S-REAGA140-FV124-0002 (80S)
R912005320	SYT-SVP5010-PGM100-S-REAHA112-FV130-0002 (100S)
R912005321	SYT-SVP5010-PGM120-S-REAGA127-FV122-0002 (120S)
R912005322	SYT-SVP5010-PGM150-S-REAGA120-FV142-0002 (150S)
R912005323	SYT-SVP5010-PGM190-S-REAF126-FV147-0002 (190S)

¹⁾ Performance class Standard (S)

SvP 5010 set - 3m cable (with -0001)

Material no.	E Serie ²⁾
R912004928	SYT-SVP5010-PGM080-S-REAGA100-FV134-0001 (80E)
R912004929	SYT-SVP5010-PGM100-S-REAGA112-FV124-0001 (100E)
R912004930	SYT-SVP5010-PGM120-S-REAHA090-FV130-0001 (120E)
R912004931	SYT-SVP5010-PGM150-S-REAGA100-FV122-0001 (150E)
R912004932	SYT-SVP5010-PGM190-S-REAGA094-FV142-0001 (190E)

SvP 5010 set - 5m cable (with -0002)

Material no.	E Serie ²⁾
R912005324	SYT-SVP5010-PGM080-S-REAGA100-FV134-0002 (80E)
R912005325	SYT-SVP5010-PGM100-S-REAGA112-FV124-0002 (100E)
R912005326	SYT-SVP5010-PGM120-S-REAHA090-FV130-0002 (120E)
R912005327	SYT-SVP5010-PGM150-S-REAGA100-FV122-0002 (150E)
R912005328	SYT-SVP5010-PGM190-S-REAGA094-FV142-0002 (190E)

²⁾ Performance class Economy (E)

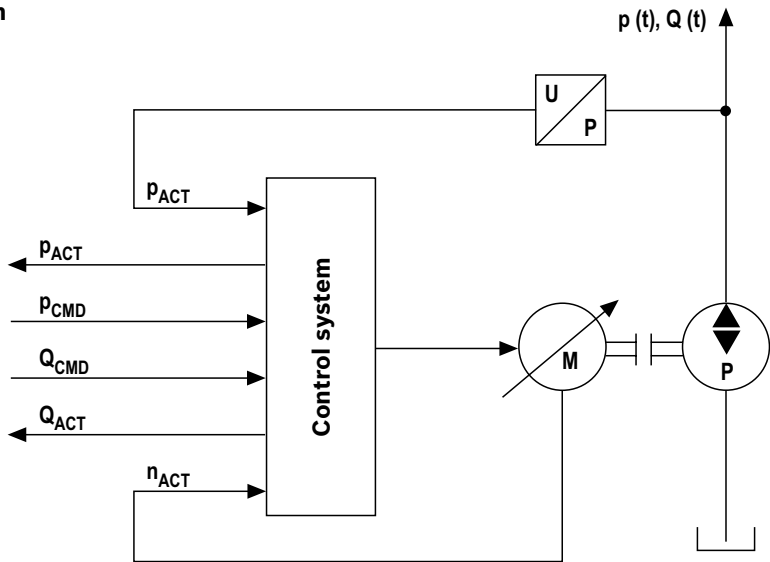
Function

A servo-variable pump drive system is used to realize a pressure-controlled hydraulic supply with substitutional flow control. It is also possible to operate the system as a hydraulic supply that is exclusively pressure-controlled. The pressure command value is specified to the frequency converter by the superior machine control. The actual pressure value is recorded by a pressure transducer in the hydraulic system and fed back to the frequency converter. The frequency converter sets the speed of the asynchronous servo motor so that the internal gear pump driven by

it displaces exactly the oil quantity required for providing the command pressure. Alternatively, a flow command value is specified to the frequency converter. The frequency converter then controls the speed of the asynchronous servo motor so that the internal gear pump driven by it displaces exactly the oil quantity corresponding to the flow command value.

System principle

SVP 5010 standard system



Pump drive combinations

Performance class	Pump / size	Performance class S	Performance class E
80	PGM4 / NG32	MAS-AN-B35-13k0-132D-BG FVCA01.1-15K0	MAS-AN-B35-09k0-132C-BG FVCA01.1-11K0
100	PGM4 / NG40	MAS-AN-B35-15k0-132D-BH FVCA01.1-18K5	MAS-AN-B35-13k0-132D-BG FVCA01.1-15K0
120	PGM4 / NG50	MAS-AN-B35-18k5-160B-BG FVCA01.1-22K0	MAS-AN-B35-15k0-132D-BH FVCA01.1-18K5
150	PGM4 / NG63	MAS-AN-B35-22k0-160C-BG FVCA01.1-30K0	MAS-AN-B35-18k5-160B-BG FVCA01.1-22K0
190	PGM5 / NG80	MAS-AN-B35-27k0-180B-BF FVCA01.1-37K0	MAS-AN-B35-22k0-160C-BG FVCA01.1-30K0

Overview of system components

The SvP 5010 pump drive unit consists of the following components:

- Motor-pump-unit consisting of:
 - Internal gear pump PGM or PGH data sheet 10235 or 10227
 - Asynchronous servo motor including encoder and power cable
 - Coupling
 - Pump mounting bracket
- Frequency converter
Type Rexroth Fv for SvP 5010
- Additional components
 - Brake chopper FELB02.1N (systems 100S-190S)
 - Braking resistor FELR01N
- Pressure transducer kit
Type SUP-E01-SYT-HM20-2X/250-H-K35-A-N (R911343046) incl. HM20 pressure transducer with tilted connector data sheet 30272
- Optional accessories:
Mains throttle ACL
Junction box (R912005080) and communication line (R912004961) for master/slave pump function

Technical data

(for applications outside these parameters, please consult us!)

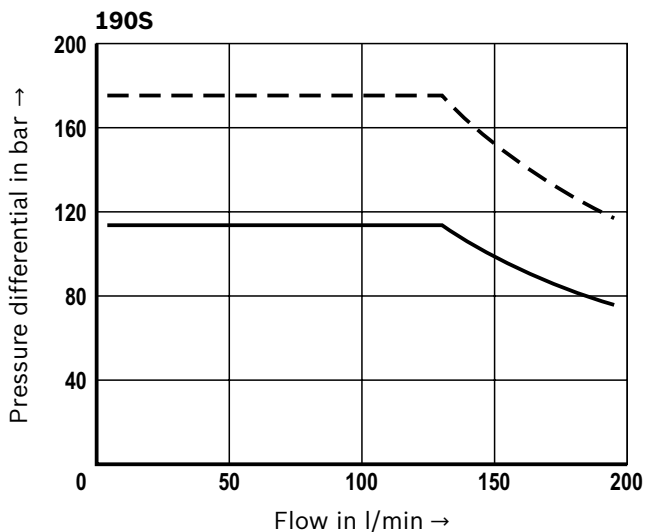
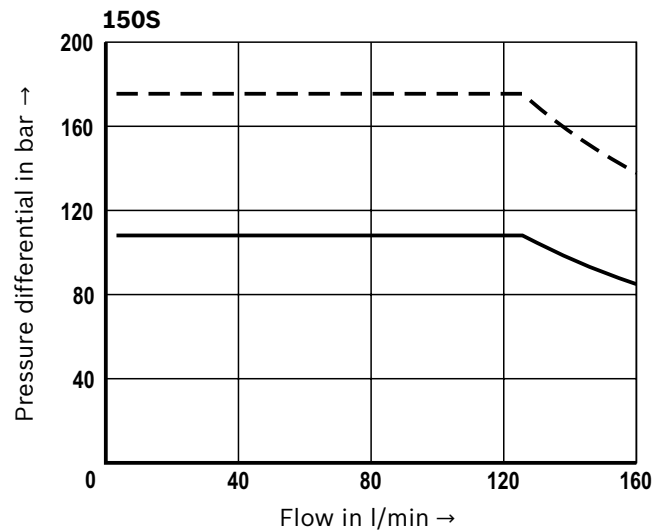
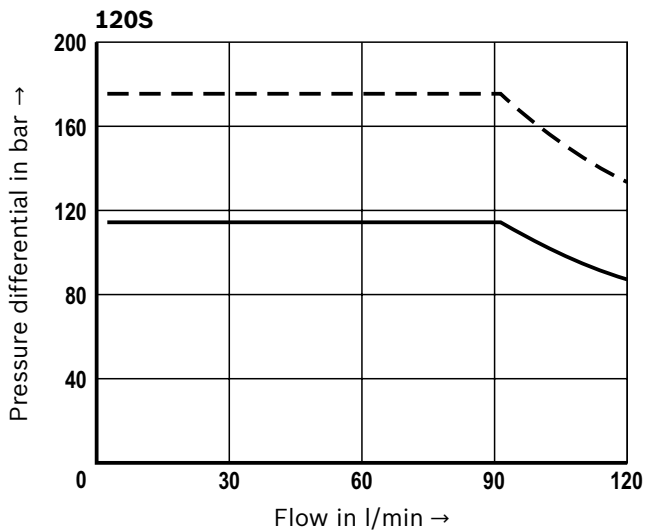
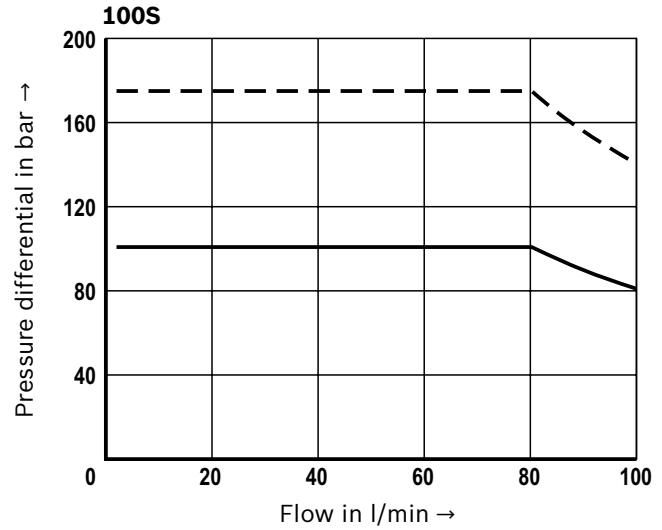
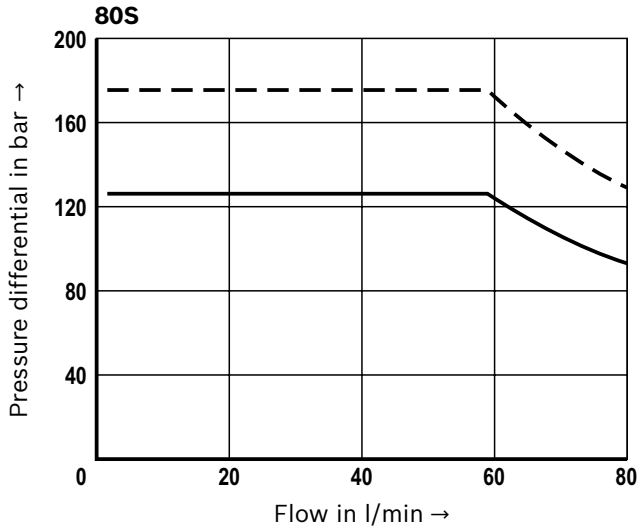
Hydraulic pump	PARAMETER	SYMBOL	UNIT	TECHNICAL DATA										
	System SvP 5010	SYT-SVP5010		80E	80S	100E	100S	120E	120S	150E	150S	190E	190S	
	Flow at $n=n_{\max}$	q_v	l/min	80		100		120		150		190		
	Intermittent	$p_{(\max)}$	bar	Up to 175 for performance class S Up to 167 for performance class E (Note the characteristic curves on pages 6 and 7 regarding velocity limitations)										
	Rated pressure up to rated speed	p_N	bar	90	126	101		81	114	90	108	85	113	
	Rated speed in the SvP system	n_{Rated}	min ⁻¹	1800			2000		1800				1600	
	Maximum speed in the SvP system	n_{MAX}	min ⁻¹	2500		2500		2400		2400		2400		
	Nominal motor power	P_{ad}	kW	9	13		15		18.5		22		27	
	Pump frame size				PGM4-4x								PGM5-3x	
	Design				/032RA11VU2		/040RA11VU2		/050RA11VU2		/063RA11VU2		/080RA11VU2	
	Size				32		40		50		63		80	
	Displacement	V_g	cm ³	32.7		40.1		50.7		65.5		81.4		
	Operating pressure, absolute													
	► Input	p	bar	0.8 ... 2 (0.6 for a short time at the start)										
	Hydraulic fluid				HLP – mineral oil according to DIN 51524 part 2									
Ambient temperature range	°C			-20 ... +60										
Viscosity range	mm ² /s			10 ... 100 2000 admissible start viscosity (400 ... 1800 min ⁻¹)										
Max. admissible degree of contamination of the hydraulic fluid														
Cleanliness class according to				Class 20/18/15 ¹⁾										

AC servo motor	Model			MAS-ANB35-09k0-132C-BG (80E)	MAS-ANB35-13k0-132D-BG (80S, 100E)	MAS-ANB35-15k0-132D-BH (100S, 120E)	MAS-ANB35-18k5-160B-BG (120S, 150E)	MAS-ANB35-22k0-160C-BG (150S, 190E)	MAS-ANB35-27k0-180B-BF (190S)
	Rated torque	M_N	Nm	50	71.5	71	101	120	160
	Maximum torque	M_{MAX}	Nm	80	128	128	163	203	273
	Rated current	I_N	A	18.5	26.5	30	36	42	51
	Maximum current	I_{MAX}	A	38	65	75	74	78	122
	Rated speed	n_N	min ⁻¹	1734	1738	2020	1745	1745	1605

¹⁾ The cleanliness classes specified for the components must be adhered to in hydraulic systems. Effective filtration prevents faults and at the same time increases the life cycle of the components.
For selecting the filters, see data sheet 51501.

Characteristic curves: Performance class Standard (S)

p/Q diagram



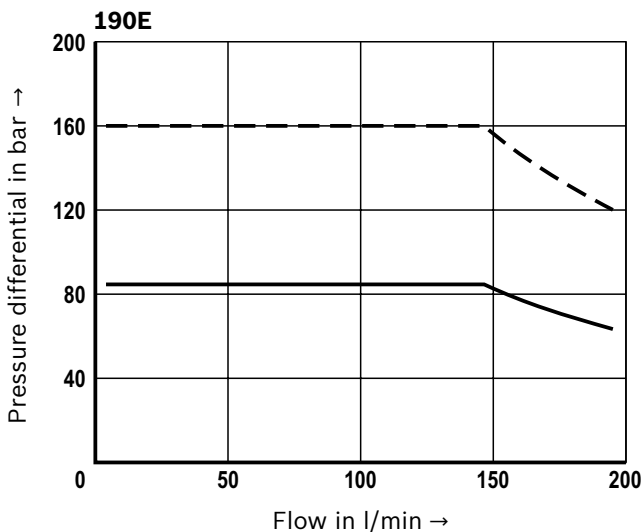
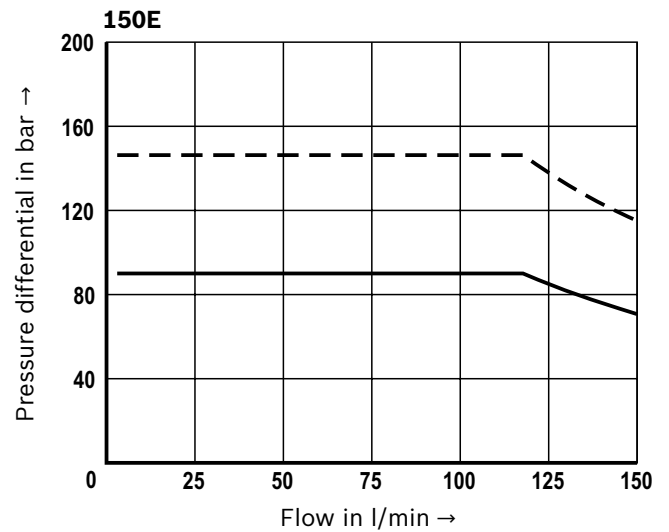
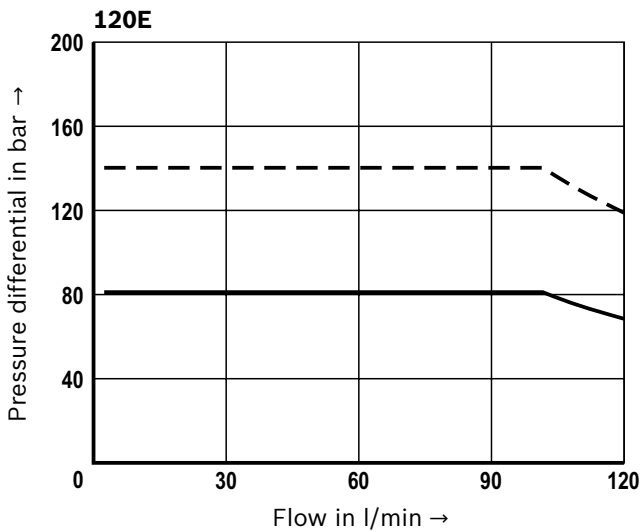
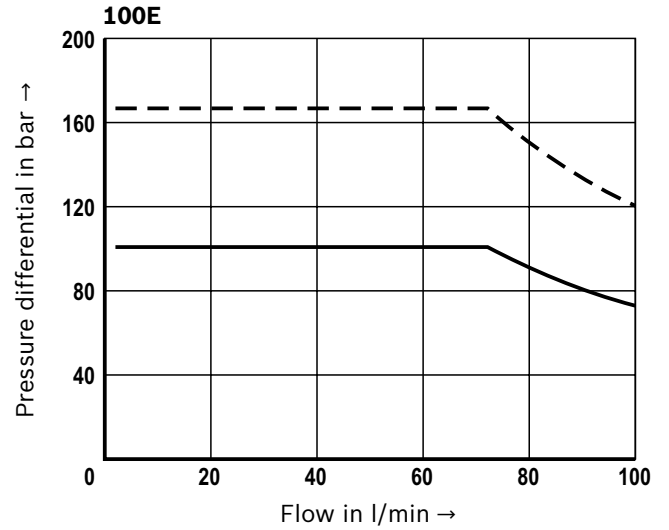
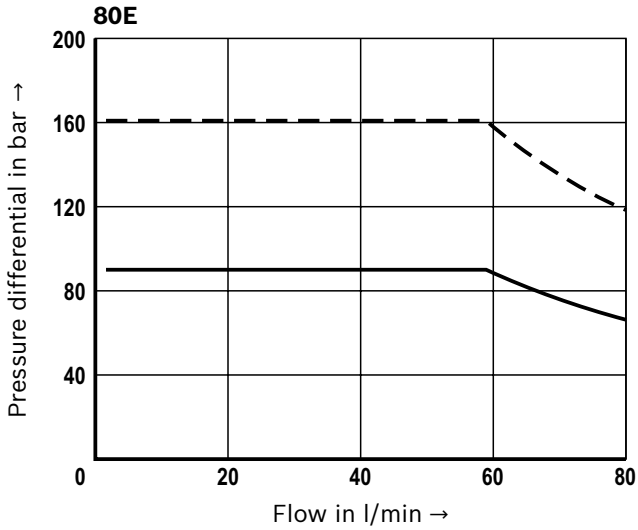
For PGM pump:
>175 bar max 10sec
at most 50% of
the duty cycle

--- 1min
 — cont ¹⁾

¹⁾ based on pump efficiency of 90 %

Characteristic curves: Performance class Economy (E)

p/Q diagram



For PGM pump:
>175 bar max 10sec
at most 50% of
the duty cycle

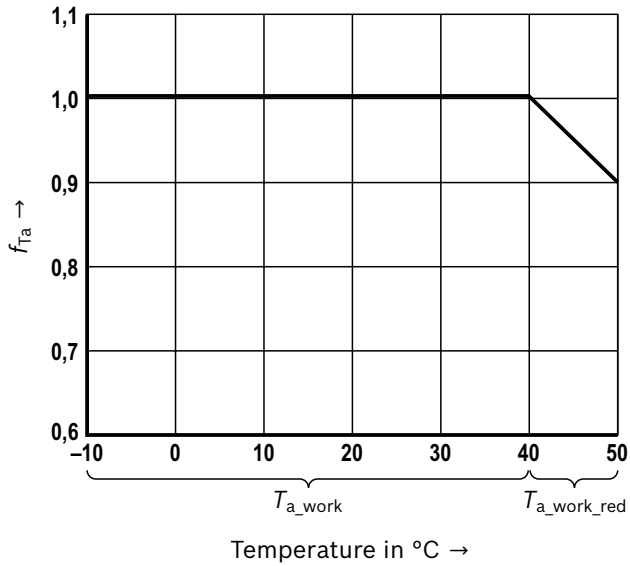
--- 1min
 — cont ¹⁾

¹⁾ based on pump efficiency of 90 %

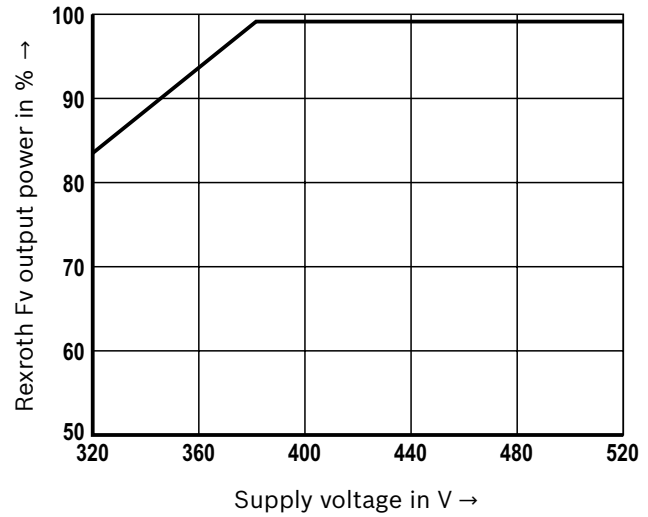
Characteristic curves

Derating

Derating as a function of the ambient temperature



Derating as a function of the supply voltage

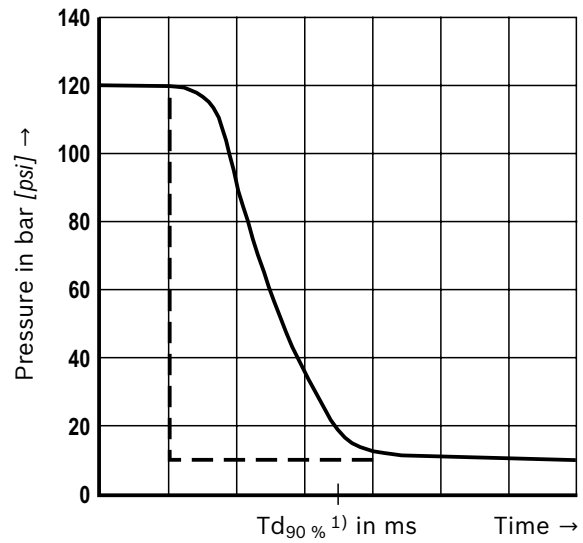
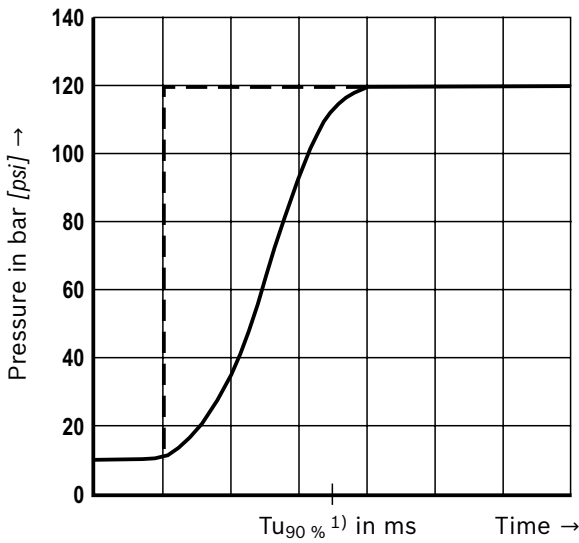


- f_{Ta} = load factor
- T_{a_work} = ambient temperature for nominal operation
- $T_{a_work_red}$ = ambient temperature for operation with reduced power values

Step response closed-loop pressure control

The specified curve shapes and control times are only achieved with an optimized pressure controller (hydraulic

fluid volume 6.8 l (80S-150S), 12 l (190S).



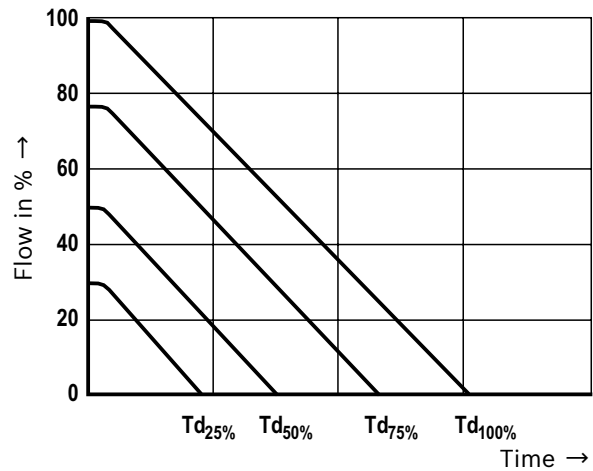
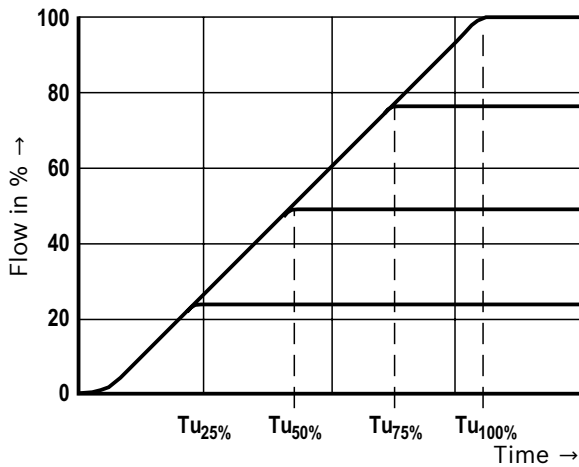
1) 90 % of step difference

Pressure step - oil volume 80S ... 150S: 6.8 l; 190S: 12.0 l

Performance class	Performance category	$Tu_{90\%}$ in ms (10 ... 120 bar)	$Td_{90\%}$ in ms (120 ... 10 bar)
80	S	194	220
100	S	202	209
120	S	202	212
150	S	202	239
190	S	258	281

Pressure step - oil volume 80E ... 150E: 6.8 l; 190E: 12 l

Performance class	Performance category	$Tu_{90\%}$ in ms (10 ... 120 bar)	$Td_{90\%}$ in ms (120 ... 10 bar)
80	E	206	247
100	E	215	239
120	E	228	239
150	E	226	243
190	E	268	302

Step response closed-loop speed control**Speed step with pressure step 100 bar, oil volume 80S ... 150S: 2.6 l; 190S: 8.5 l**

Performance class	Performance category	Tu _{25 %} in ms maximum velocity 0-25 %	Tu _{50 %} in ms maximum velocity 0-50 %	Tu _{75 %} in ms maximum velocity 0-75 %	Tu _{100 %} in ms maximum velocity 0-100 %
80	S	35	62	101	147
100	S	37	68	101	135
120	S	38	70	105	150
150	S	37	74	112	162
190	S	45	87	136	171

Speed step with pressure step 100 bar, oil volume 80E ... 150E: 2.6 l; 190E: 8.5 l

Performance class	Performance category	Tu _{25 %} in ms maximum velocity 0-25 %	Tu _{50 %} in ms maximum velocity 0-50 %	Tu _{75 %} in ms maximum velocity 0-75 %	Tu _{100 %} in ms maximum velocity 0-100 %
80	E	32	65	100	146
100	E	34	69	102	152
120	E	38	73	106	140
150	E	39	73	110	147
190	E	39	72	109	159

Speed step with pressure step 100 bar, oil volume 80S ... 150S: 2.6 l; 190S: 8.5 l

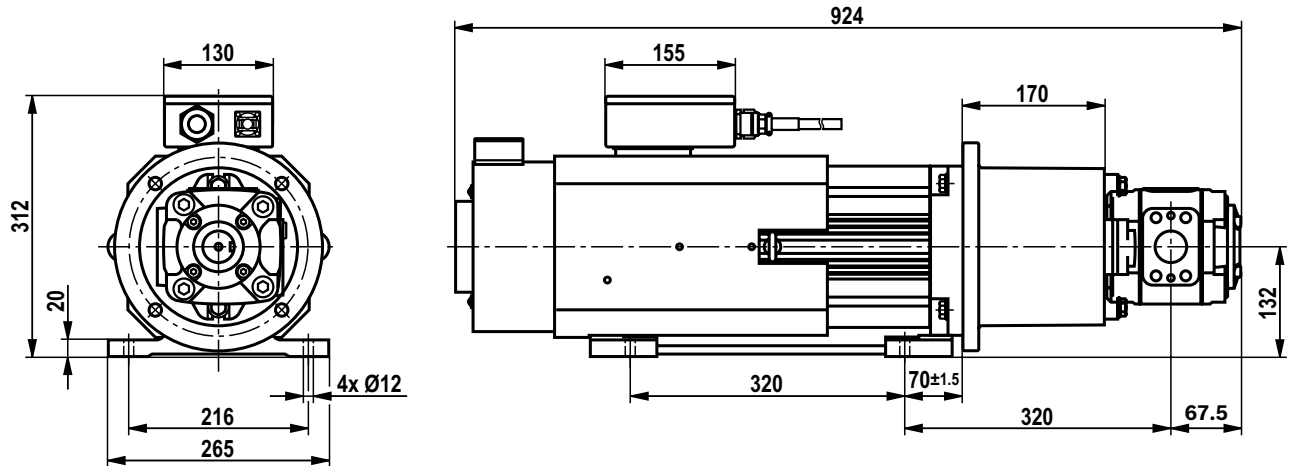
Performance class	Performance category	Tu _{25 %} in ms maximum velocity 25-0 %	Tu _{50 %} in ms maximum velocity 50-0 %	Tu _{75 %} in ms maximum velocity 75-0 %	Tu _{100 %} in ms maximum velocity 100-0 %
80	S	49	91	148	190
100	S	49	99	145	179
120	S	52	96	140	190
150	S	57	103	147	196
190	S	56	98	144	194

Speed step with pressure step 100 bar, oil volume 80E ... 150E: 2.6 l; 190E: 8.5 l

Performance class	Performance category	Tu _{25 %} in ms maximum velocity 25-0 %	Tu _{50 %} in ms maximum velocity 50-0 %	Tu _{75 %} in ms maximum velocity 75-0 %	Tu _{100 %} in ms maximum velocity 100-0 %
80	E	48	91	135	183
100	E	48	92	139	190
120	E	52	93	139	173
150	E	55	97	145	189
190	E	49	90	139	179

Dimensions: Motor pump group with foot mounting (dimensions in mm)

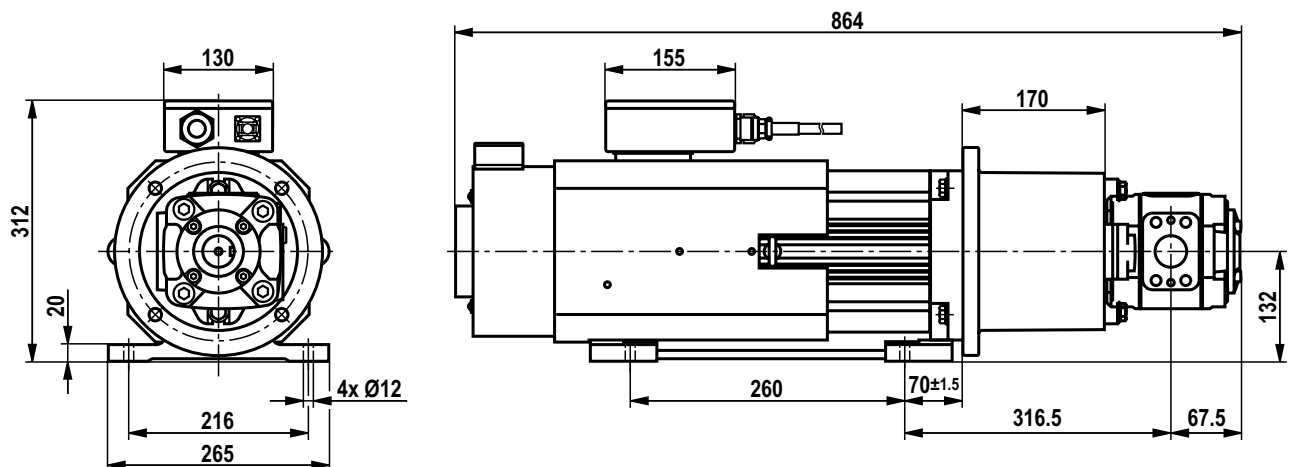
Type SYT-SVP5010-PGM80-S-REAGA140-FV124-0001/2



System size	Motor	Pump size	Porting pattern / port		m in kg
			S	P	
080S	MAS-AN-B35-13k0-132D-BG	PGM4-4X/032	1 1/2" 3000 PSI	1" 6000 PSI	110.37 ¹⁾

¹⁾ weight for MPAT1 with 3m cable. For all power level MPAT1 with 5m cable, it could be about 1kg to 1.5kg higher

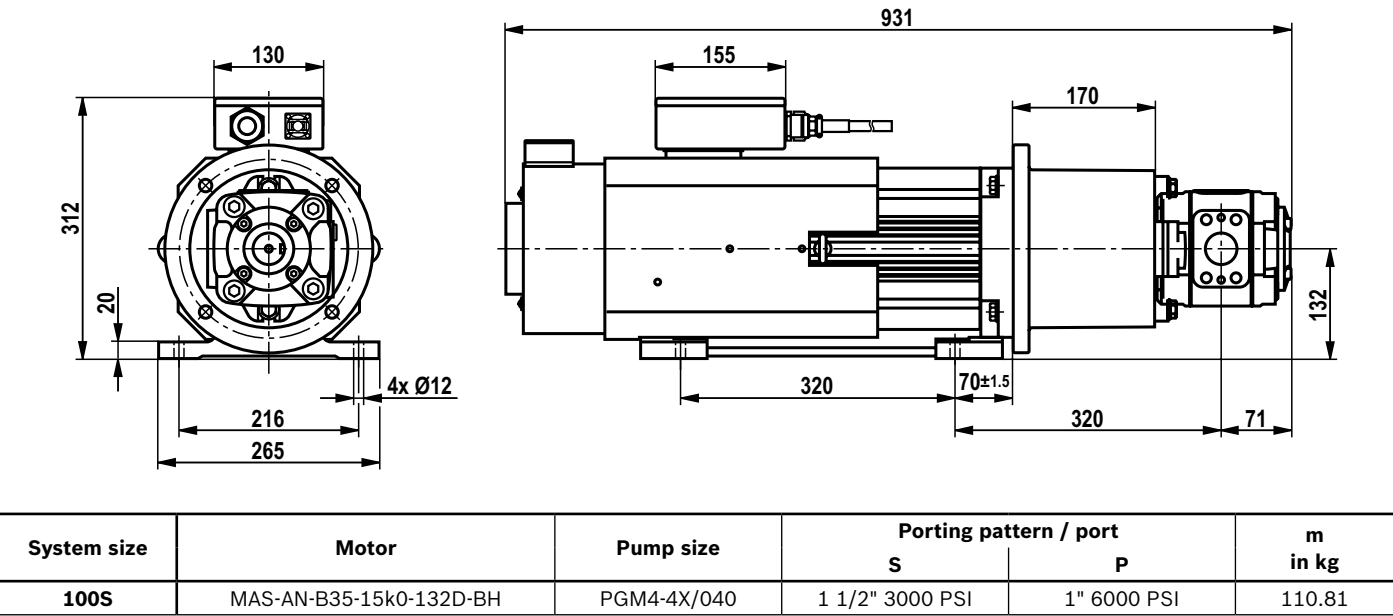
Type SYT-SVP5010-PGM80-S-REAGA100-FV134-0001/2



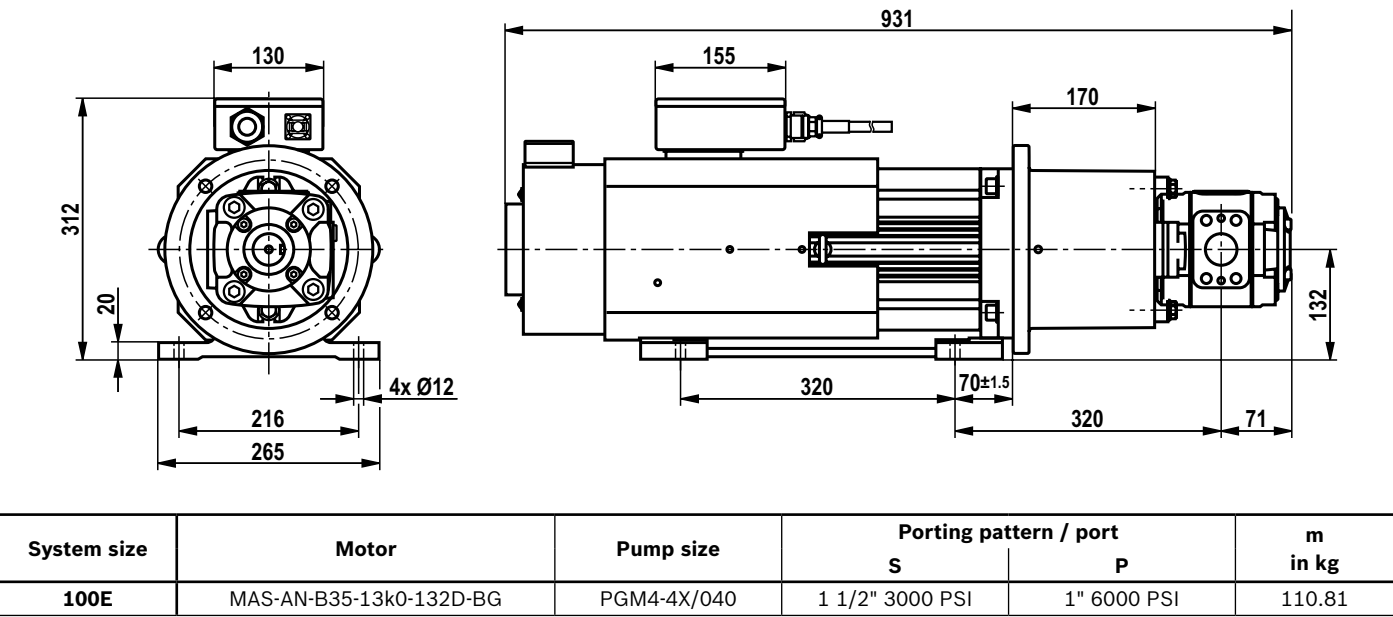
System size	Motor	Pump size	Porting pattern / port		m in kg
			S	P	
080E	MAS-AN-B35-09k0-132C-BG	PGM4-4X/032	1 1/2" 3000 PSI	1" 6000 PSI	100.37

Dimensions: Motor pump group with foot mounting
(dimensions in mm)

Type SYT-SVP5010-PGM100-S-REAHA112-FV130-0001/2



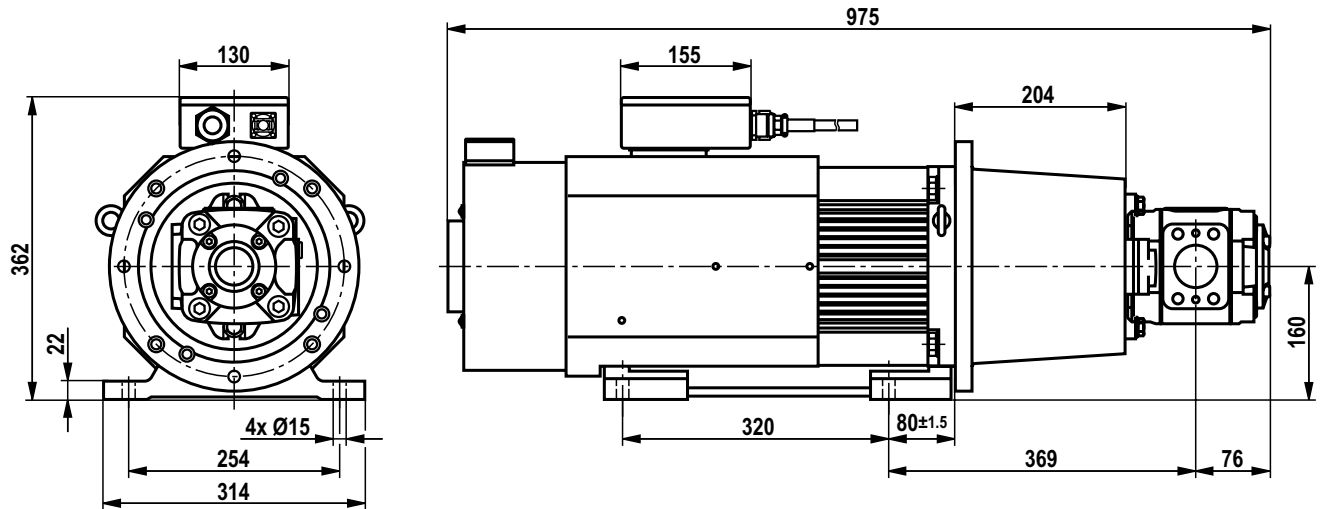
Type SYT-SVP5010-PGM100-S-REAGA112-FV124-0001/2



Dimensions: Motor pump group with foot mounting

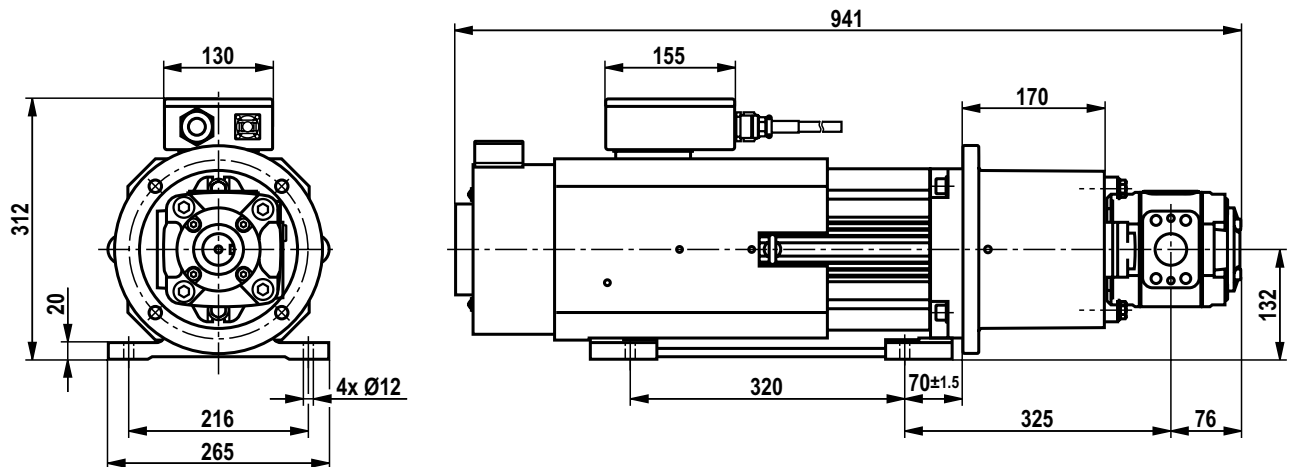
(dimensions in mm)

Type SYT-SVP5010-PGM120-S-REAGA127-FV122-0001/2



System size	Motor	Pump size	Porting pattern / port		m in kg
			S	P	
120S	MAS-AN-B35-18k5-160B-BG	PGM4-4X/050	2" 3000 PSI	1" 6000 PSI	150.13

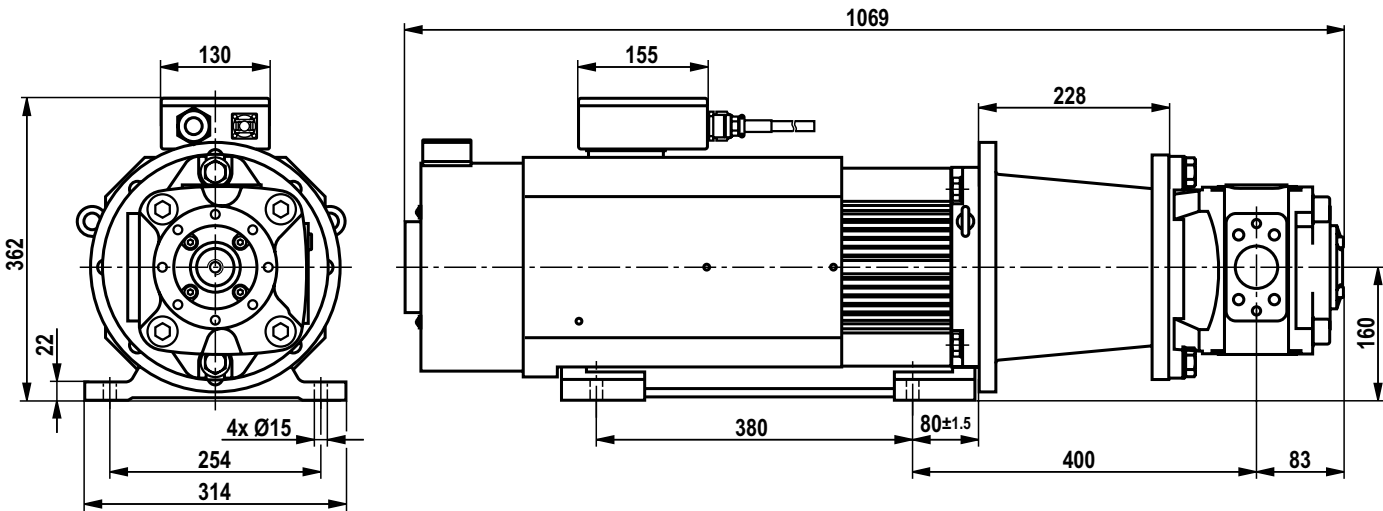
Type SYT-SVP5010-PGM120-S-REAHA090-FV130-0001/2



System size	Motor	Pump size	Porting pattern / port		m in kg
			S	P	
120E	MAS-AN-B35-15k0-132D-BH	PGM4-4X/050	2" 3000 PSI	1" 6000 PSI	111.59

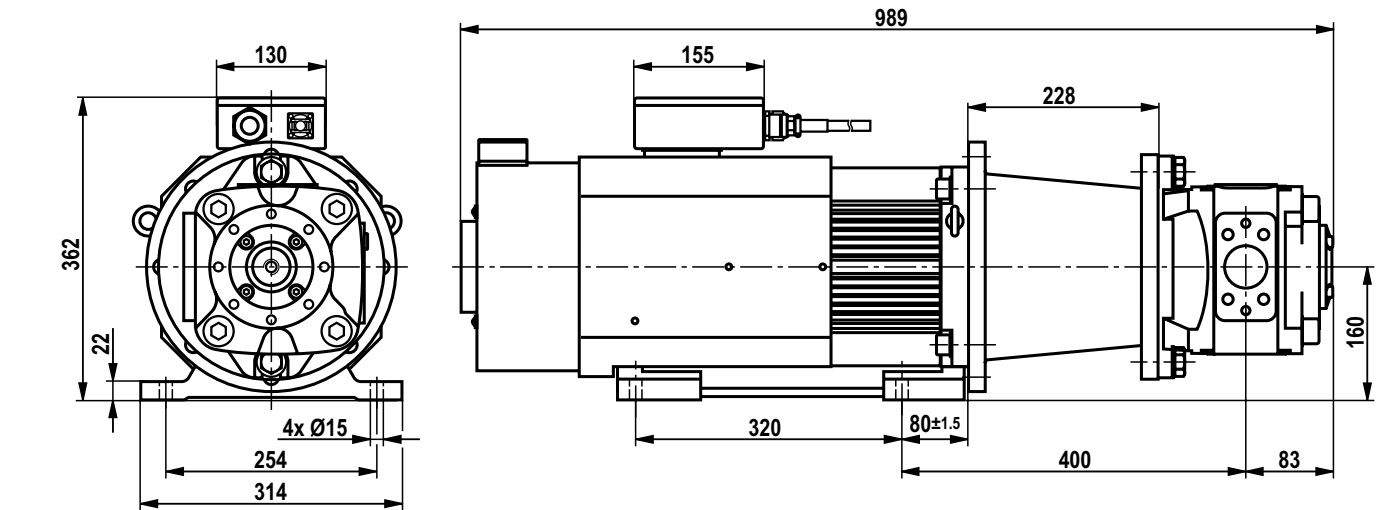
Dimensions: Motor pump group with foot mounting
(dimensions in mm)

Type SYT-SVP5010-PGM150-S-REAGA120-FV142-0001/2



System size	Motor	Pump size	Porting pattern / port		m in kg
			S	P	
150S	MAS-AN-B35-22k0-160C-BG	PGM4-4X/063	2" 3000 PSI	1 1/4" 6000 PSI	175.43

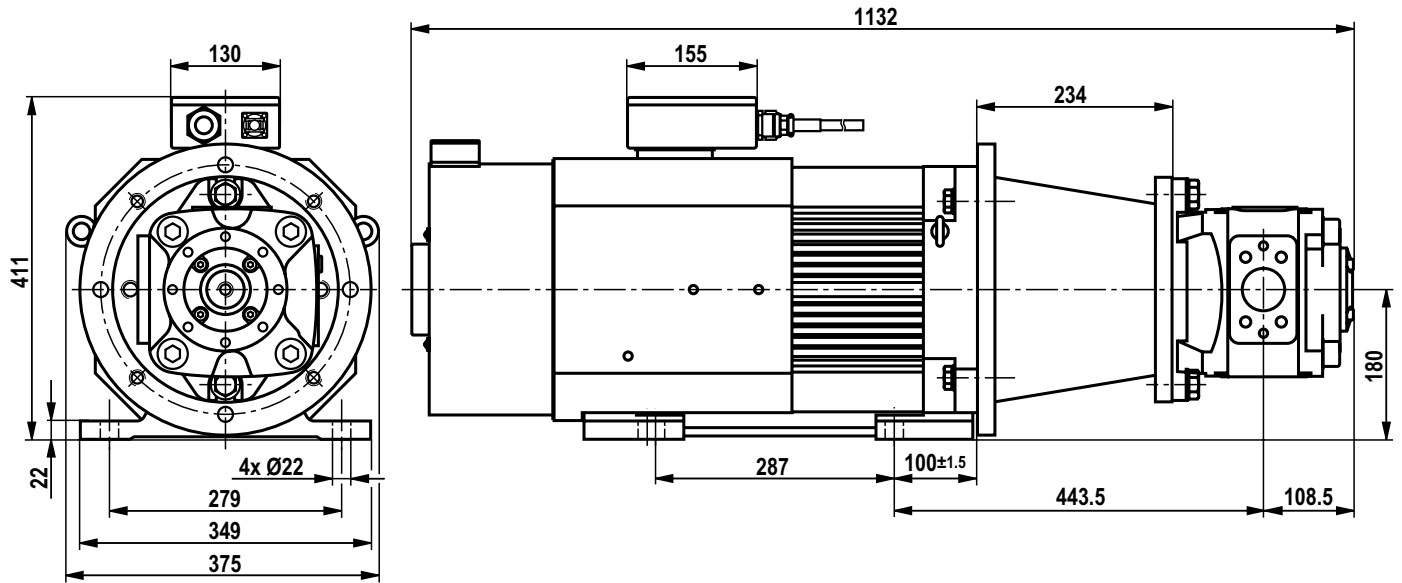
Type SYT-SVP5010-PGM150-S-REAGA100-FV122-0001/2



System size	Motor	Pump size	Porting pattern / port		m in kg
			S	P	
150E	MAS-AN-B35-18k5-160B-BG	PGM4-4X/063	2" 3000 PSI	1 1/4" 6000 PSI	151.21

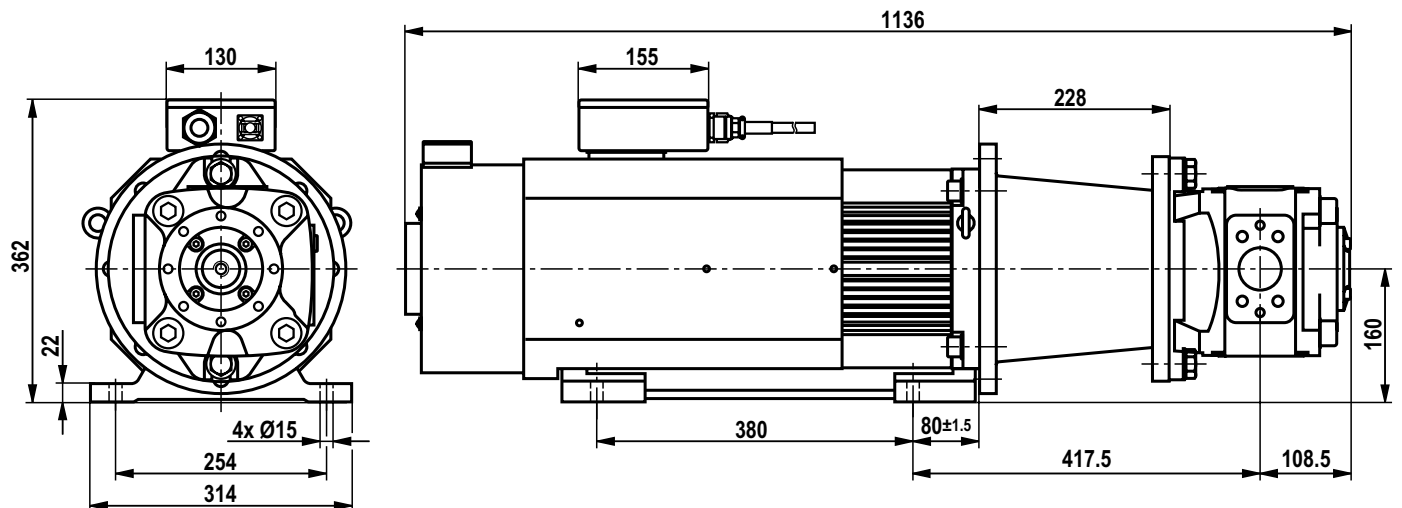
Dimensions: Motor pump group with foot mounting (dimensions in mm)

Type SYT-SVP5010-PGM190-S-REAF126-FV147-0001/2



System size	Motor	Pump size	Porting pattern / port		m in kg
			S	P	
190S	MAS-AN-B35-27k0-180B-BF	PGM5-3X/080	2" 3000 PSI	1 1/4" 6000 PSI	270.64

Type SYT-SVP5010-PGM190-S-REAGA094-FV142-0001/2



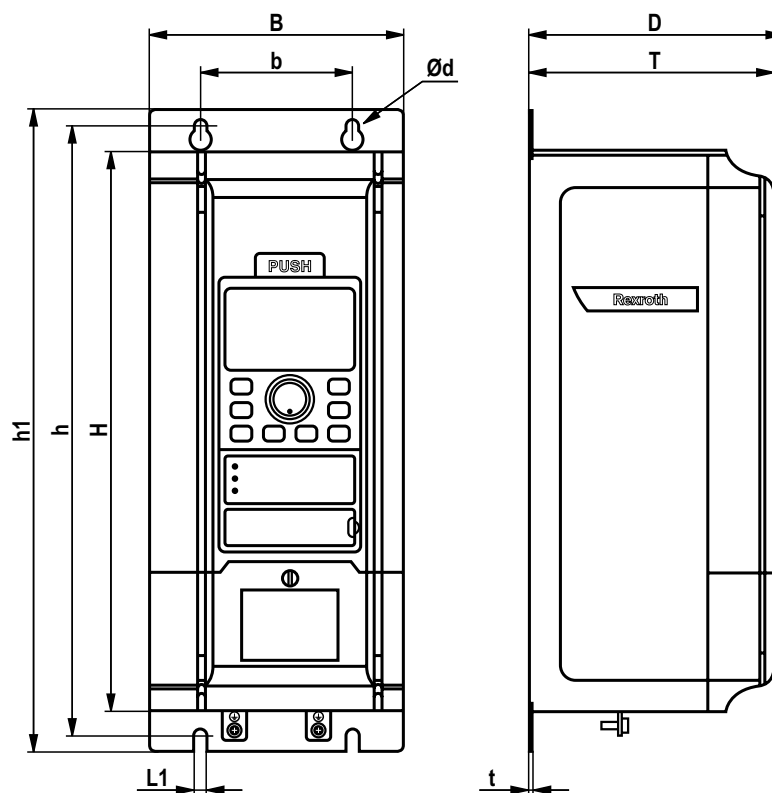
System size	Motor	Pump size	Porting pattern / port		m in kg
			S	P	
190E	MAS-AN-B35-22k0-160C-BG	PGM5-3X/080	2" 3000 PSI	1 1/4" 6000 PSI	209.18

Technical data: Rexroth Fv frequency converter

(for applications outside these parameters, please consult us!)

Design			11K0- 3P4- MDALP- P002- 01V01 (80E)	15K0- 3P4- MDALP- P002- 01V01 (80S, 100E)	18K5- 3P4- MDALP- P002- 01V01 (100S, 120E)	22K0- 3P4- MDALP- P002- 01V01 (120S, 150E)	30K0- 3P4- MDALP- P002- 01V01 (150S, 190E)	37K0- 3P4- MDALP- P002- 01V01 (190S)
Power	P	kW	11	15	18.5	22	30	37
Mains voltage	U	V	3 AC 380 ... 480 V (–15 % / +10 %) (TN - mains)					
Input frequency	f_{SUP}	Hz	50 ... 60 Hz (±5 %)					
Overload capacity	C_{Overload}	%	150 % of the rated current for 60 s 180 % of the rated current for 10 s					
Power reduction Maximum installation height		m	Maximum 1000 m above sea level: None; 1000 ... 4000 m above sea level: 1 % / 100 m					
Ambient temperature		°C	–10 °C ... 40 °C (no condensation and no icing); Power reduction between 40 °C and 50 °C					
Relative humidity		%	< 90 % (no condensation)					
Interference resistance		m/s ² (g)	< 5.9 m/s ² (0.6 g)					
Admissible degree of contamination			2 (EN 50178)					
Protection class			IP20 (for control cabinet installation)					
Cooling			Air forced ventilation					
Installation			Wall mounting					
Interfaces	– Inputs		10 x digital inputs 1 x rotary encoder input for speed feedback 3 x analog inputs					
	– Outputs		2 x outputs with open collector 1 x pulse output 2 x relay outputs AC 250 V, 3 A / DC 30 V, 3 A 2 x analog outputs					

Dimensions: Rexroth Fv frequency converter (dimensions in mm)



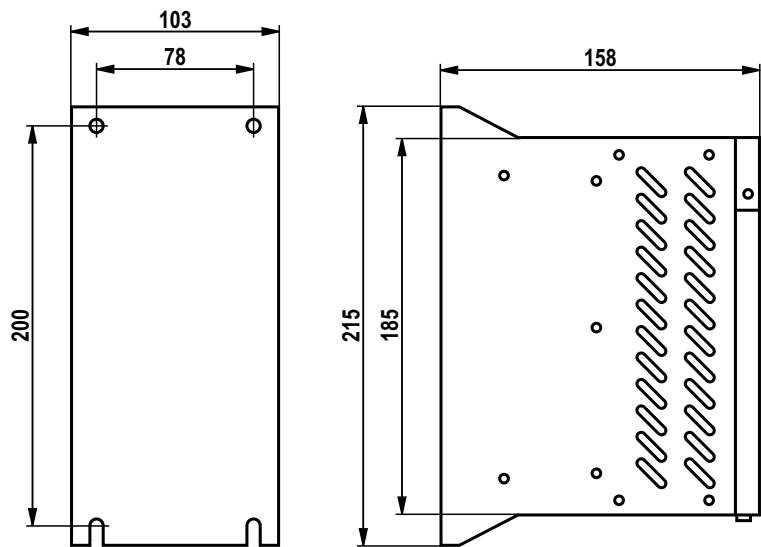
Housing	Fv model	B	b	T	t	H	h	h1	d	D	L1	Screw size
C	SvP system 80E FVCA01.1-11k0-3P4- MDA-LP-P002-01V01	175	100	199	2	398	432	448	6.5	204	6.5	M6
	SvP system 80S, 100E FVCA01.1-15K0-3P4- MDA-LP-P002-01V01...											
D	SvP system 100S, 120E FVCA01.1-18K5-3P4- MDA-LP-P002-01V01...	225	125	227	3.5	440	482	500	9	232	9	M8
	SvP system 120S, 150E FVCA01.1-22K0-3P4- MDA-LP-P002-01V01...											
E	SvP system 150S, 190E FVCA01.1-30K0-3P4- MDA-LP-P002-01V01...	250	150	251.5	3.5	525	567	585	9	256.5	9	M8
	SvP system 190S FVCA01.1-37K0-3P4- MDA-LP-P002-01V01...											

Technical data: Brake chopper ¹⁾
(for applications outside these parameters, please consult us!)

Voltage classes			AC voltage supply 380 V – 15 % ... 480 V + 10 %; 50/60 Hz ± 5 %
Version			FELB02.1N-30K0-NN0NE-A-560-NNNN
Specification of the input and output parameters	– Maximum current	A	50
	– Rated current	A	15
	– Initial voltage		DC 630 / DC 660 / DC 690 / DC 730 / DC 760 V ± 16 V
	– Maximum hysteresis	V	Approx. 16
	– Synchronization signal		Coupled input, coupled output, up to three brake units can be operated in parallel
Mains voltage	DC BUS voltage range		DC 460 - 800 V
Protection	Overheating of the cooling element		Active with temperatures above +85 °C
	Error output		RELAY connection 0.6 A 125 VAC / 2 A 30 VDC (T1, T2)
Display	– Power ON		With voltages exceeding 100 V in the main line, the POWER display flashes red
	– Braking ON		If the brake chopper is active (i.e. during braking) the "Braking" LED flashes green.
Weight		kg	2.5

¹⁾ The frequency converters Fv with power level 11 kW and 15 kW have internal chopper, therefore no external brake chopper needed for SvP 5010 systems 80S, 80E and 100E

Dimensions: Brake chopper
(dimensions in mm)



Technical data: Braking resistor ¹⁾

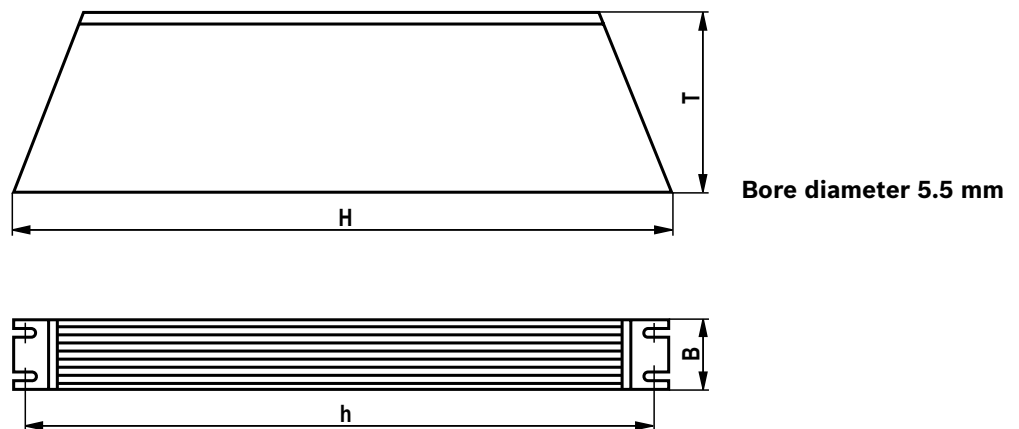
(for applications outside these parameters, please consult us!)

Design	FELR01.1N-	02K0-N047R-D-560-P001									
SvP 5010 system		80S	80E	100S	100E	120S	120E	150S	150E	190S	190E
Quantity		1	1	1	1	1	1	2	1	3	2
Weight	<i>m</i> kg	4.90									
Material		Aluminum									
Impedance	<i>Z</i> Ω	47									
Power	<i>P</i> kW	2000									
Wiring	mm ²	4									
Fitting	mm	M6									

¹⁾ Braking resistor was dimensioned for system power supply of 380 V

Dimensions: Braking resistor

(dimensions in mm)



SvP system	Impedance in Ω	Power in kW	H	h	B
80S, 80E	47	2000	550	532	50
100S, 100E					
120S, 120E					
150S, 150E					
190S, 190E					

SvP system	T	Wiring in mm ²	Fitting	Weight in kg	Material
80S, 80E	107	4.0	M6	4.90	Aluminum
100S, 100E					
120S, 120E					
150S, 150E					
190S, 190E					

Technical data: Pressure transducer kit with HM20
(for applications outside these parameters, please consult us!)

Features:

- ▶ Pressure transducer kit with tilted connector
(Type: SUP-E01-SYT-HM20-2X/250-H-K35-A-N)
- ▶ Measurement of pressures in hydraulic systems
- ▶ Measurement ranges up to 250 bar
- ▶ HM20 Sensor with thin film measuring cell
- ▶ Components that are in contact with the media are made of stainless steel
- ▶ Operational safety due to high bursting pressure, reversed polarity, overvoltage and short-circuit protection
- ▶ Accuracy class 0.5
- ▶ Non-repeatability < 0.05 %
- ▶ Wide operating temperature range -40 ... +85 °C



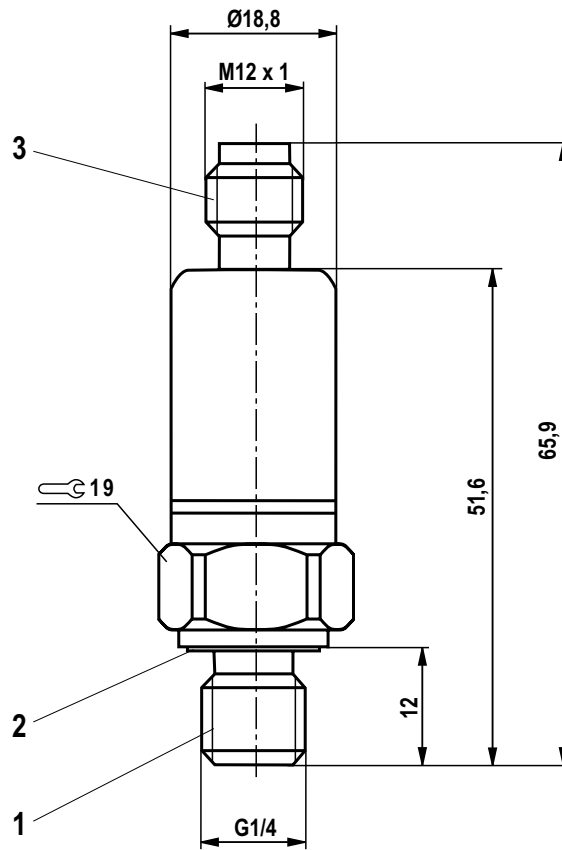
Electrical connection: HM20 pressure transducer

4-pole M 12 connector, view to connection side

Voltage		Current (two-wire system)	
	Value for U_S , R_A and U_{Sig} , see page 3 ¹⁾		Value for U_S , R_A and I_{Sig} , see page 3 ¹⁾

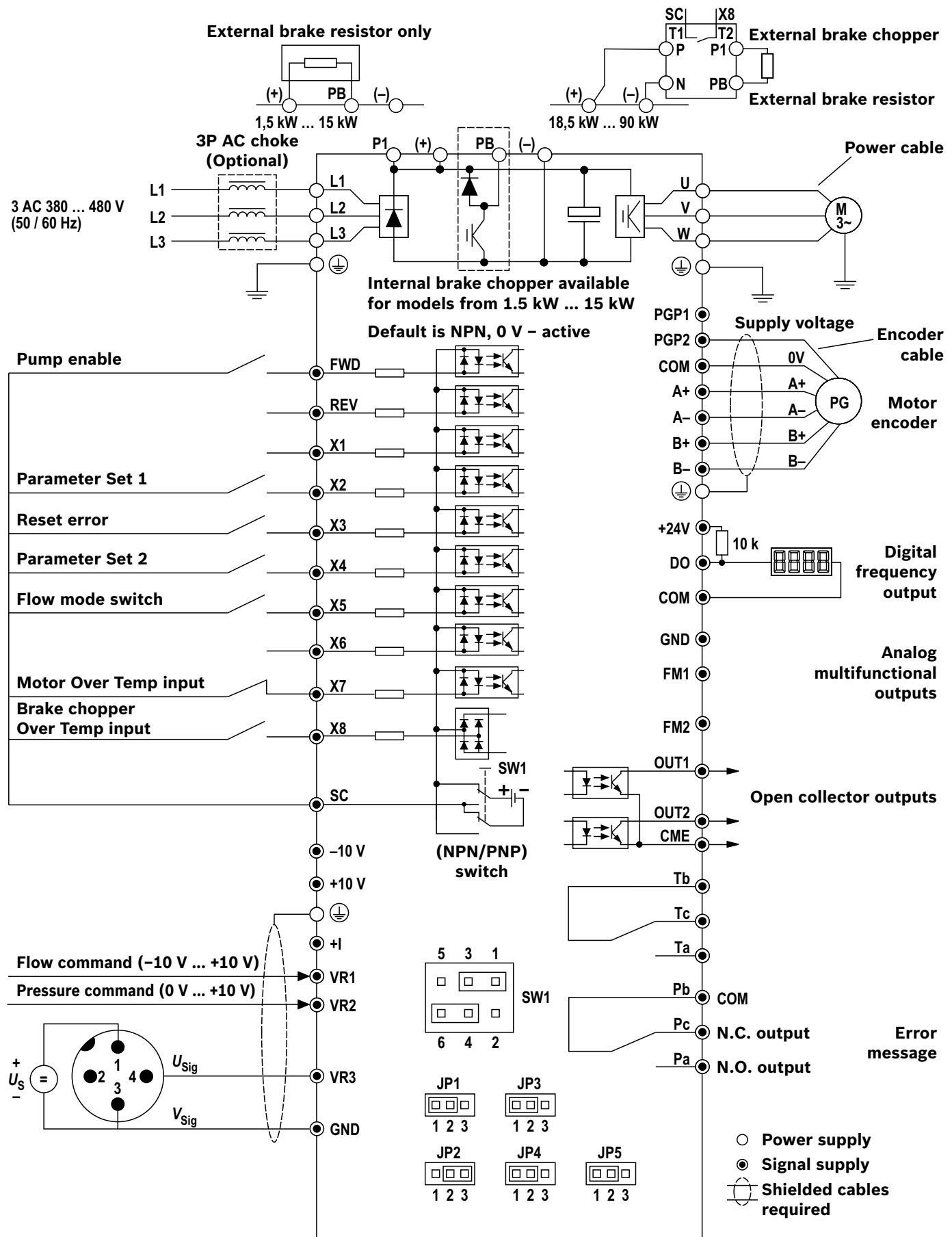
¹⁾ Refer to source data sheet 30272

Dimensions: HM20 pressure transducer
(dimensions in mm)

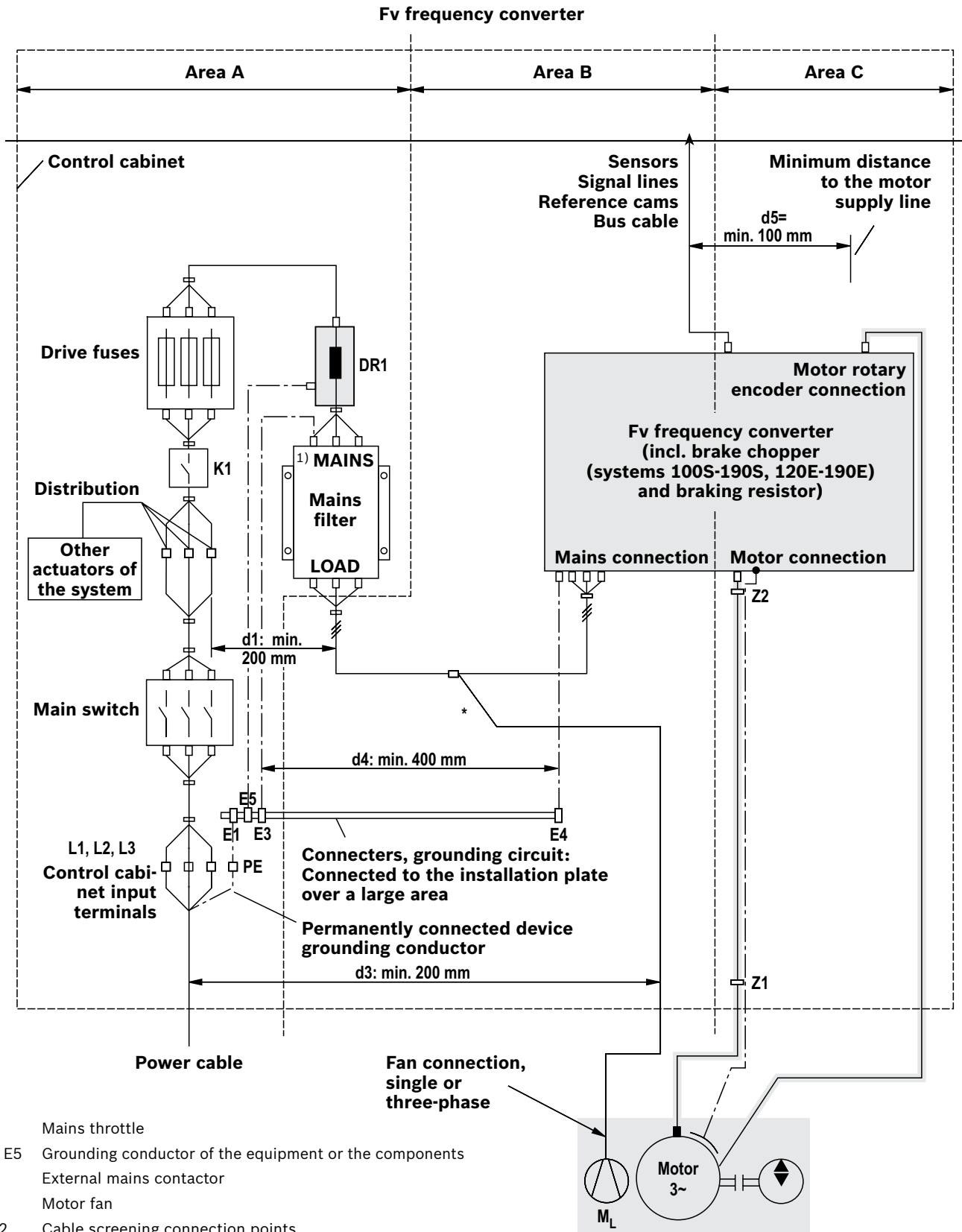


- 1** Pressure port G1/4 male thread
- 2** Seal ring
- 3** 4-pole M12 connector

Typical general connection scheme



Frequency converter



¹⁾ With cable lengths above 15 m, an additional mains filter is required. Please contact your account manager in this case.

Documentation

More information about Rexroth Fv, the internal gear pump and the pressure transducer is available as hard copy, on CD-ROM, DVD or on the Internet.

Alternatively, you can directly contact your local Bosch Rexroth representation. The corresponding addresses can be found on the back side of this document.

Documentation online

All current documents can also be downloaded from the Internet:

www.boschrexroth.com/mediadirectory

Documentation hard copy

Frequency converter

Type Rexroth Fv, incl. connection piece

R912004739

Internal gear pump, fixed displacement

Type PGM4-4X, PGM5-4X: Data sheet 10235

Pressure transducer kit with integrated electronics

Type SUP-E01-SYT-HM20-2X/250-H-K35-A-N with HM20-2X,

incl. tilted connector: Data sheet 30272

Hydraulic fluids based on mineral oils and related hydrocarbons for all Rexroth hydraulic components:

Data sheet 90220

Bosch Rexroth AG
Hydraulics
Zum Eisengießer 1
97816 Lohr am Main, Germany
Phone +49 (0) 93 52/18-0
documentation@boschrexroth.de
www.boschrexroth.de

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