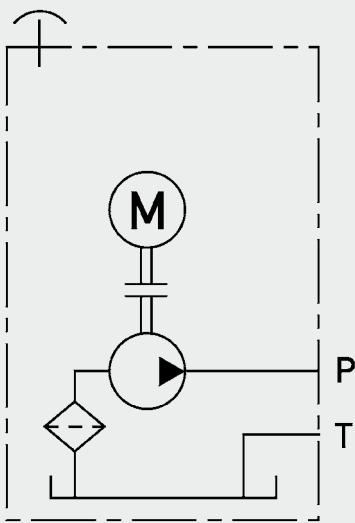
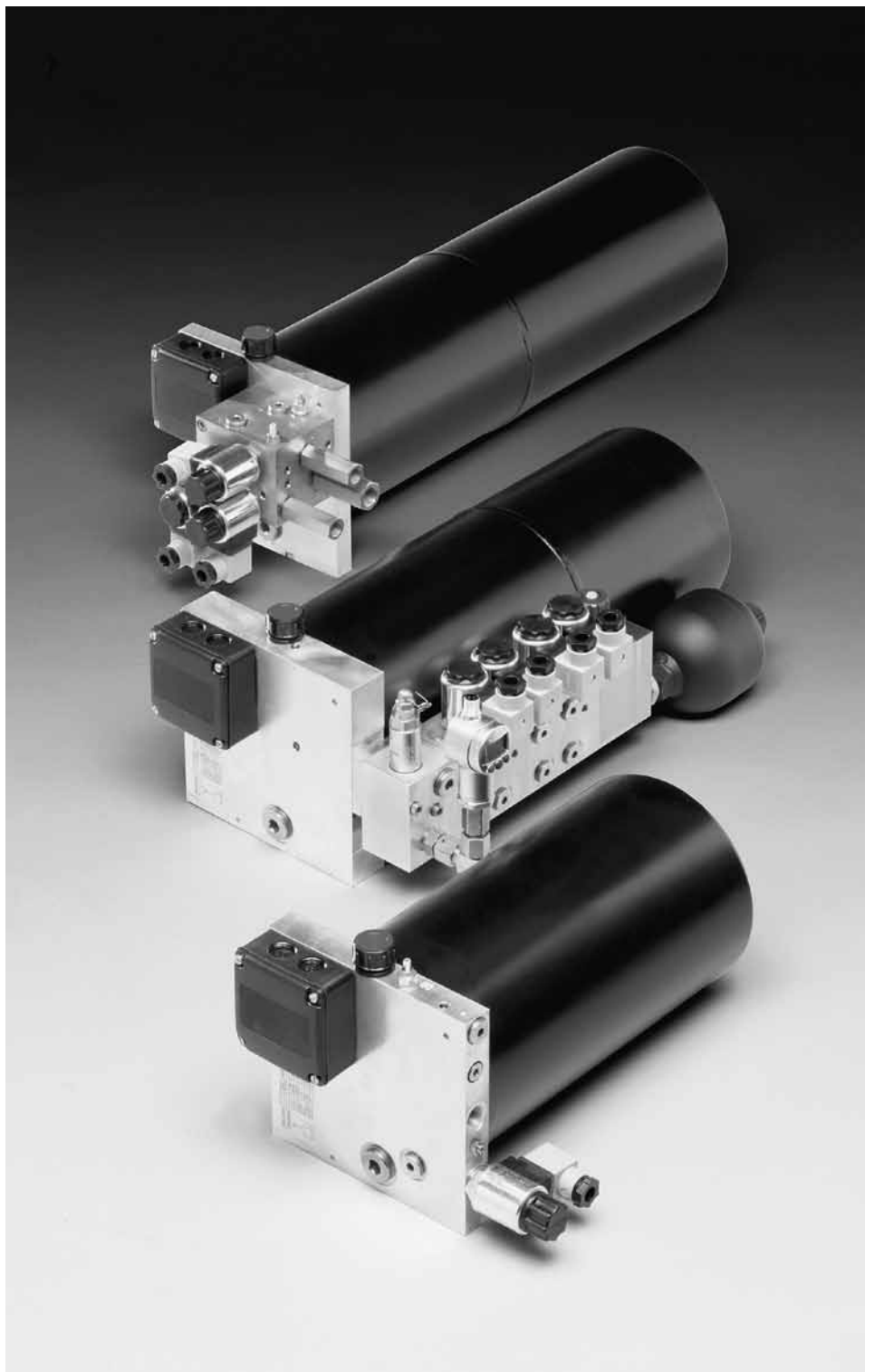


HYDAC Compact Power Units CA



Up to 250 bar
Up to 12.6 l/min

Suitable for:
Short-term operation S2
Intermittent operation S3



1. TECHNICAL SPECIFICATIONS

1.1 GENERAL

- For short-term operation S2 or intermittent operation S3
- High performance compact units
- Motor-pump unit is oil-immersed in the tank, therefore low-noise levels and compact design
- Standard control blocks or modular valve stacking systems are available to create customized control solutions
- High leakage resistance and stability due to deep-drawn steel tank
- Terminal board on the front face simplifies electrical installation
- Space-saving design due to small flange
- Optional thermal switch available for monitoring the oil temperature and to prevent overheating

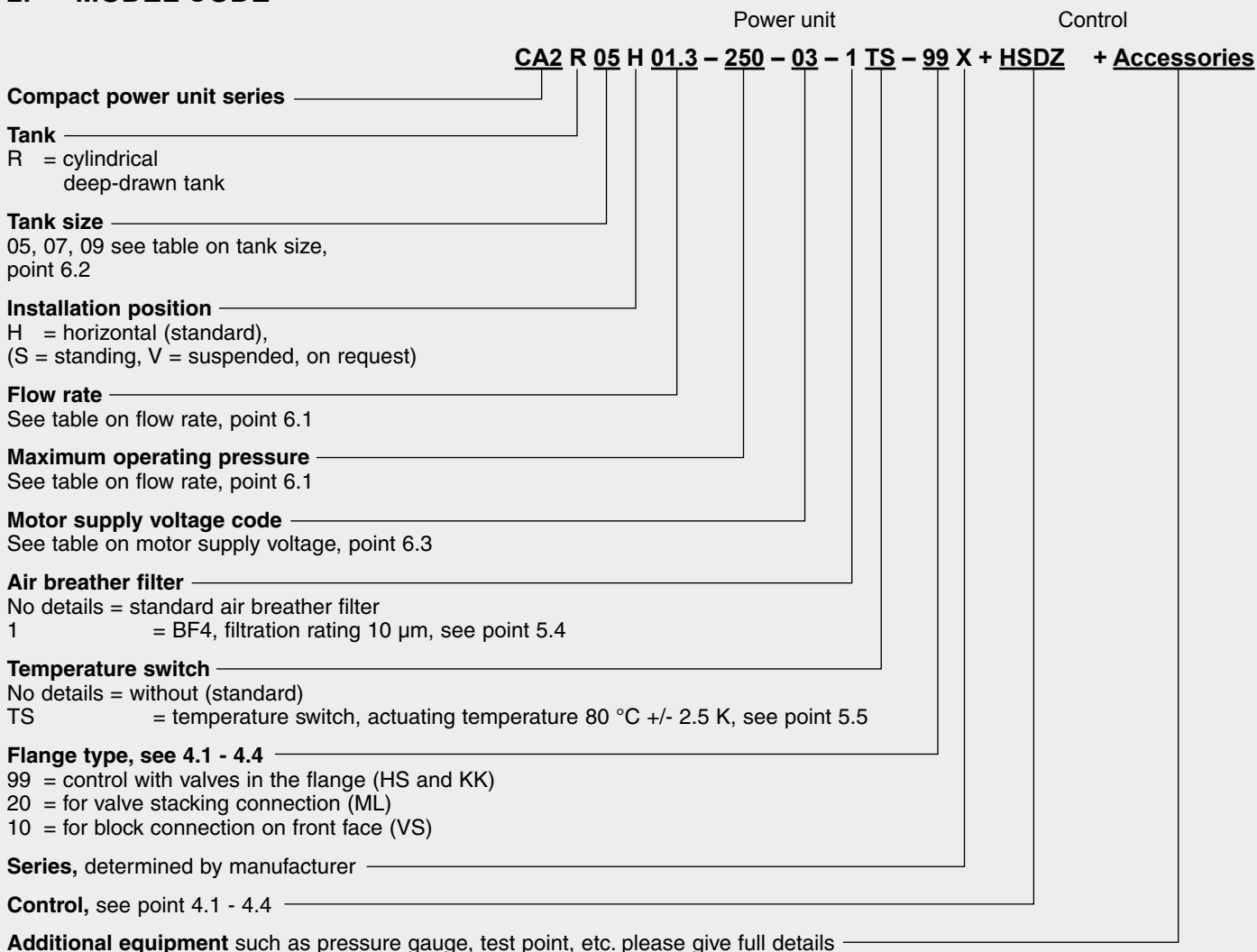
1.2 HYDRAULIC SPECIFICATIONS

| | |
|--------------------------------------|--|
| Nominal pressure Pn | Up to 250 bar (depending on the flow rate and motor output) |
| Flow rate Q | 1.3 to 12.6 l/min (see table 6.1) |
| Operating fluid | Hydraulic oil to DIN 51524 Part 2, HLP |
| Temperature range of operating fluid | -20 °C to +80 °C |
| Viscosity range | min.10 mm ² /s; max. 380 mm ² /s |
| Filtration | Class 21/19/16 according to ISO 4406 or cleaner |

1.3 ELECTRICAL SPECIFICATIONS

| | |
|----------------------|--|
| Type of construction | Three-phase squirrel-cage motor, oil-cooled, or single-phase motor, oil-cooled (supplied with operating capacitor) |
| Output and rpm | From 0.55 kW to 3.0 kW, ns = 1500 or 3000 rpm |
| Nominal voltage | Standard: 3-phase 220-240 V/380-420 V, 50 Hz 3-phase 254-277 V/440-460 V, 60 Hz (see table 6.3) single-phase 230 V, 50 Hz (see table 6.1 and 6.3) |
| Tank volume | Usable volume 2.5 – 7.2 l (others on request), see chapter 6.2 |
| Duty cycle | S3 (short-term operation): approx. 10 % S2 (short-term operation): 3 min |
| Safety type | IP54 to VDE 0470 = EN 60529 provided electrical connection is correct |
| Type of connection | Standard terminal board in the motor terminal box |

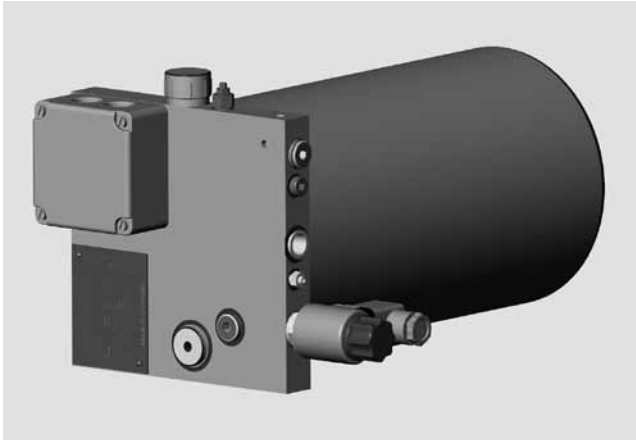
2. MODEL CODE



E 5.305/2/01.13

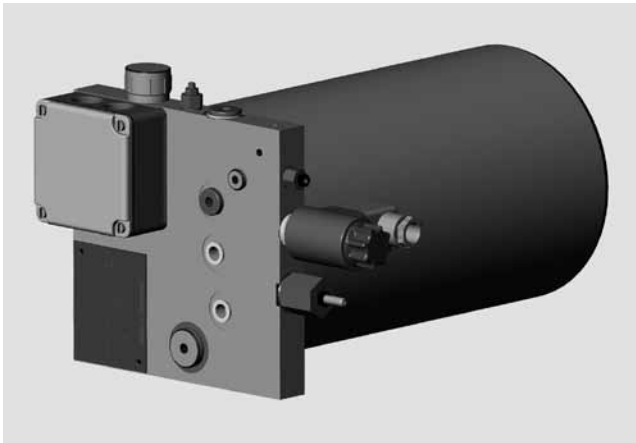
3. TYPICAL APPLICATIONS

3.1 CONTROL HS



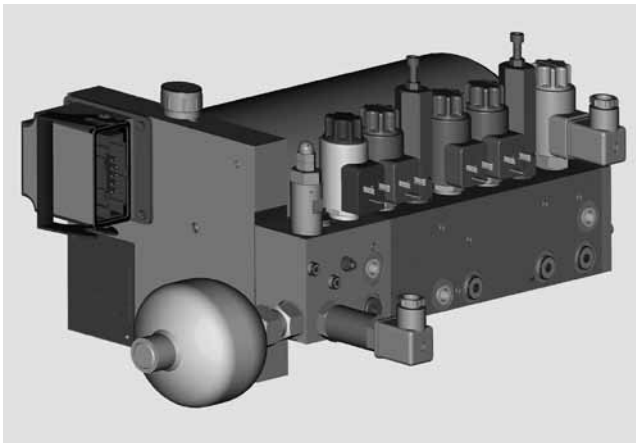
Scissor lift

3.2 CONTROL KK



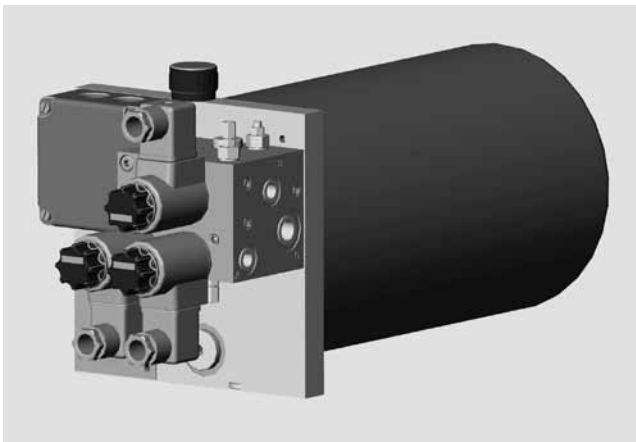
Tilting dock leveller with door seal

3.3 CONTROL ML



Milling machine

3.4 CONTROL VS

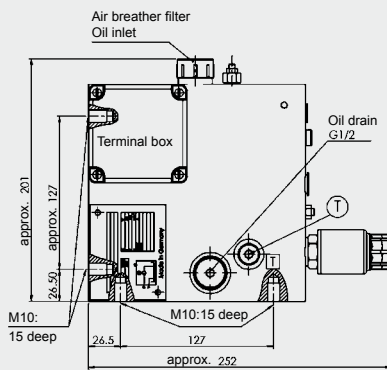
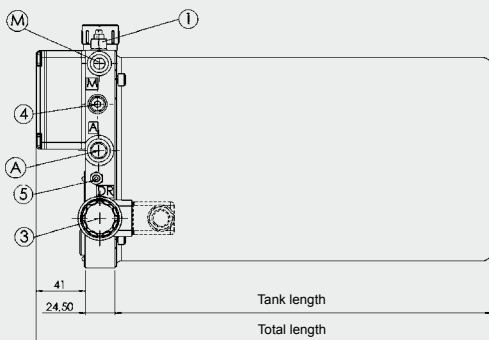


Telescopic dock leveller

4. CONTROLS: DIMENSIONS, CONNECTIONS AND SYMBOLS

4.1 CONTROL HS (LIFT/LOWER CONTROL)

Dimensions



Tank length, see table, point 6.2

Port A: G 3/8

Port M, T: G 1/4

Model code

+ HS D Z + G24 - N

Basic model

HS = lift/lowering control

With needle valve

D = needle valve

With directional valve

Z = directional poppet valve WSM06020Z without coil

Y = directional poppet valve WSM06020Y without coil

Coil voltage

G24 = 24 V DC (without connector)

W230 = 230 V AC (without connector)

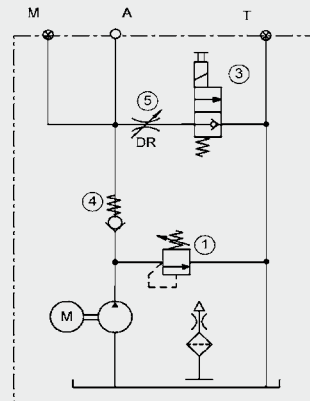
Connector G24 / W230 = Part No. 394287

Manual override for directional valve

N = with manual override

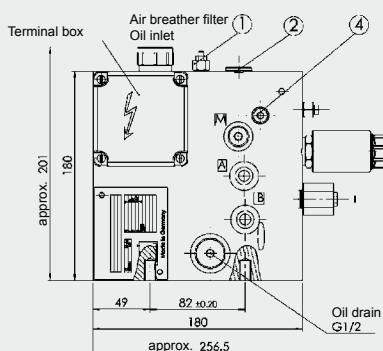
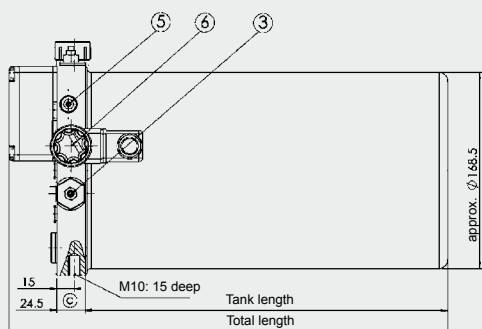
No details = without manual override

Symbol



4.2 CONTROL KK (tilting dock leveller control)

Dimensions



Tank length, see table, point 6.2

Port A, B, M: G 1/4

Model code

+ KK + G24

Basic model

KK = tilting lock leveller control

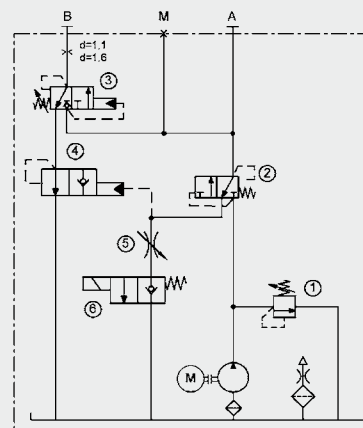
Coil voltage

G24 = 24 V DC (without connector)

W230 = 230 V AC (without connector)

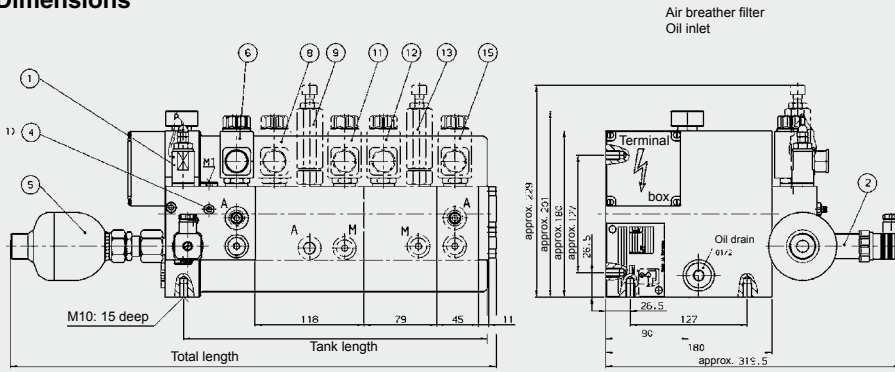
Connector G24/W230 = Part No. 394287

Symbol



4.3 CONTROL ML (valve stacking control)

Dimensions



Tank length, see table, point 6.2
Port A, M, M1: G 1/4

Model code

+ ML... + G24

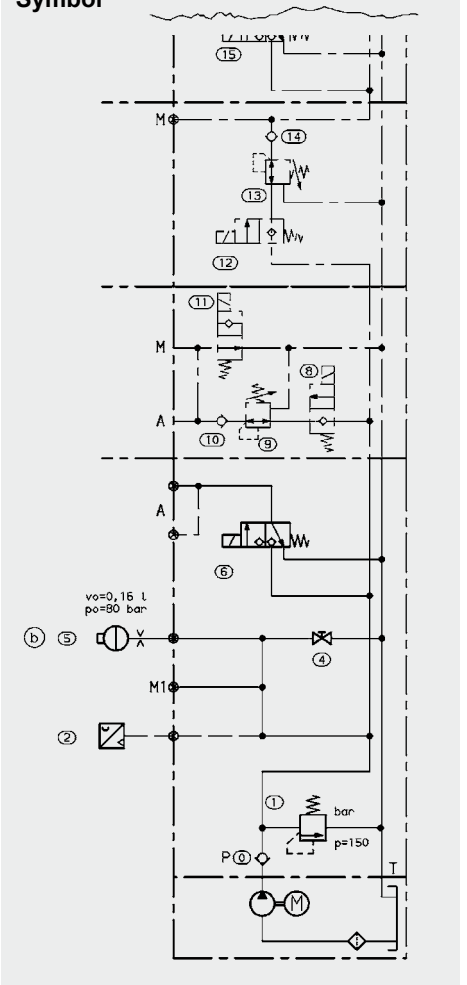
Basic model

ML = valve stacking control
For model code and dimensions, please see brochure for Valve Stacking System ML

Coil voltage

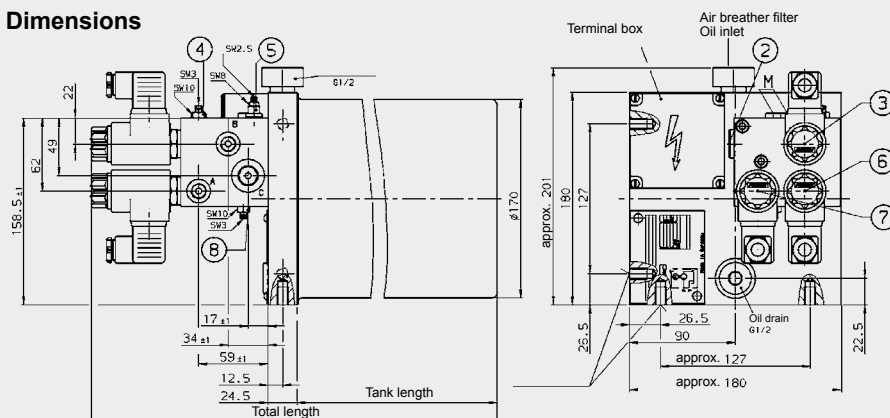
G24 = 24 V DC (without connector)
W230 = 230 V AC (without connector)
Connector G24/W230 = Part No. 394287

Symbol



4.4 CONTROL VS (telescopic dock leveller control)

Dimensions



Tank length, see table, point 6.2
Port A, B, M: G 1/4
Port C: G 3/8

Model code

+ VS + G24

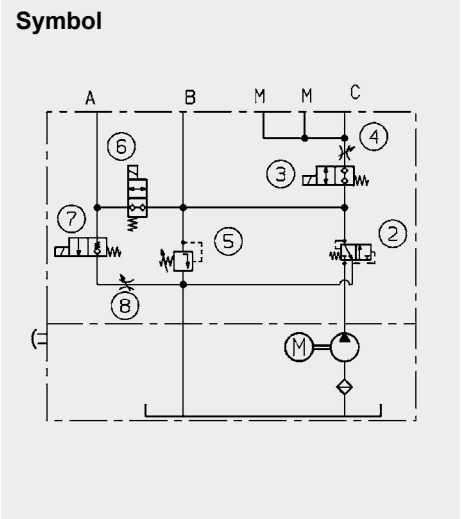
Basic model

VS = telescopic dock leveller control

Coil voltage

G24 = 24 V DC (without connector)
W230 = 230 V AC (without connector)
Connector G24/W230 = Part No. 394287

Symbol



5. SAFETY INSTRUCTIONS AND DOCUMENTATION

7.1 SAFETY INSTRUCTIONS DURING OPERATION

- The power unit must only be used for its intended purpose
- Do not exceed maximum permitted operating pressure
- Max. permissible oil temperature in the unit of 80 °C must not be exceeded
- Power unit and attachments can get hot during operation
- Risk of injury!

5.2 REQUIREMENTS AT THE INSTALLATION SITE

- Permitted ambient temperature range -20 °C to +40 °C
- Ensure adequate ventilation for heat dissipation
- Do not mount power unit onto moving parts
- Finish required on mounting surface 0.3 mm over 100 mm length
- To avoid excessive noise, use anti-vibration mounts and avoid mounting on resonating surfaces
- To prevent vibration transfer, hoses must be used wherever possible when connecting the power unit

5.3 HYDRAULIC ACCUMULATORS

The following hydraulic accumulators can be fitted (please state clearly when ordering):

Diaphragm accumulator, weld-type

Type SBO 210-0.16 and SBO 210-0.32

See brochure E 3.100...

Attention:

Systems fitted with an accumulator must always include a safety valve (DB4-CE pressure relief valve) and a manual pressure release device.

5.4 BREATHER FILTER

Filtration rating 10 µm, without dipstick, for use in heavily-contaminated environments (Illustrated under point 4. Dimensions).

5.5 TEMPERATURE SWITCH TS (to protect the power unit from overheating)

Actuating temperature: 80 °C +/- 2.5 K

Switch-back hysteresis: approx. 10 to 30 K

Nominal voltage: AC max 250 V / DC max. 60 V

Current capacity with AC: 1.6 A at $\cos \varphi = 0.6$
2.5 A at $\cos \varphi = 1.0$

DC: 60 V = 1.0 A / 42 V = 1.2 A
6, 12, 24 V = 1.5 A

Type of contact: Normally closed

Connection: Terminal in terminal box

6. TABLES OF TECHNICAL SPECIFICATIONS

6.1 PUMP FLOW RATE

| 3-phase motor | | | | | | | | |
|-----------------|-------|-----------------|--|---------|--------|--------|--------|--------|
| Flow rate l/min | | | Max. operating pressure (bar) for motor output | | | | | |
| 50 Hz | 60 Hz | Pump displ. ccm | Poles | 0.55 kW | 1.1 kW | 1.5 kW | 2.2 kW | 3.0 kW |
| 1.3 | 1.6 | 1.0 | 4 | 250 | | | | |
| 2.4 | 2.9 | 2.0 | 4 | 170 | 250 | | | |
| 3.7 | 4.4 | 2.65 | 4 | 115 | 230 | | | |
| 5.0 | 6.0 | 3.75 | 4 | 85 | 170 | 230 | | |
| 6.3 | 7.6 | 4.75 | 4 | 70 | 140 | 185 | 250 | |
| 7.4 | 8.9 | 2.65 | 2 | 60 | 120 | 155 | 210 | |
| 10.0 | 12.0 | 3.75 | 2 | 40 | 80 | 110 | 160 | 230 |
| 12.6 | 15.1 | 4.75 | 2 | 35 | 70 | 90 | 140 | 180 |

Minor differences in flow rate and nominal rpm are possible depending on the manufacture.

At p_{max} the pump flow rate can reduce to approx. 90 %.

6.2 TANK SIZE

| Tank size | Tank length (mm) | Motor output (kW) | | | |
|-------------|------------------|-------------------|---------|-------------|---------|
| | | 0.55 – 1.1 kW | | 1.5 – 3* kW | |
| | | V F (l) | V E (l) | V F (l) | V E (l) |
| R 05 | 312 | 4.2 | 3.0 | 4.0 | 2.5 |
| R 07 | 440 | 6.8 | 5.4 | 6.3 | 4.5 |
| R 09 | 550 | 9.0 | 7.2 | 8.6 | 6.3 |

V F = filling volume

V E = usable volume

* = combination of 2.2 und 3 kW motor not available with Tank 05

6.3 MOTOR SUPPLY VOLTAGE

| Code | No. of phases | Voltage range | Frequency | |
|------|---------------|-------------------------|-----------|----------|
| 03 | 3 | 220 - 240 / 380 - 400 V | 50 Hz | Standard |
| | | 254 - 277 / 440 - 460 V | 60 Hz | Standard |
| 04 | 3 | 290 - 300 / 500 - 520 V | 50 Hz | Special* |
| | | 330 - 346 / 575 - 600 V | 60 Hz | Special* |
| 06 | 3 | 380 - 400 / 660 - 690 V | 50 Hz | Special* |
| 63 | 1 | 220 - 240 V | 50 Hz | Standard |
| 80 | | 115 V | 60 Hz | Special* |
| 82 | | 220 V | 60 Hz | Special* |

* All special voltages: minimum order quantity of 10 pieces, or on request

6.4 MECHANICAL SPECIFICATIONS

6.4.1 Electrically-powered external gear pump, pressure-compensated with oil-immersed electric motor

6.4.2 Type of mounting

Power unit flange must be fixed using screws M10 (min. 8.8) with torque 40 Nm, see point 4.1-4.4

6.4.3 Weight (excluding oil and control)

CA with 0.55 kW motor = 11 - 13 kg
 CA with 1.1 - 1.5 kW motor (2-pole) = 13 - 14.5 kg
 CA with 1.5 - 3 kW motor (4) = 15.5 - 19 kg

6.4.4 Direction of rotation of the motor

Connect motor for clockwise rotation, switch on - if the pump does not deliver any oil: reverse the direction of rotation.

6.4.5 Installation position

Horizontal, air breather filter at the top

| Single-phase motor* | | | |
|---------------------|-------|--|--------|
| Flow rate l/min | | Max. operating pressure (bar) for motor output | |
| 50 Hz | Poles | 1.1 kW | 1.5 kW |
| 1.3 | 4 | 210 | |
| 2.4 | 4 | 210 | |
| 3.7 | 4 | 180 | 210 |
| 5.0 | 4 | 140 | 190 |
| 6.3 | 4 | 100 | 140 |
| 7.4 | 2 | 90 | 120 |
| 10.0 | 2 | 60 | 90 |
| 12.6 | 2 | 50 | 70 |

(*motor with 0.55/2.2/3.0 kW on request)

7. NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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