

"Always ready for operation but without consuming any energy"

- Energy efficiency thanks to accumulator charging function
- **Area of application**  
Accumulator charging function with integrated safety valve and accumulator pressure relief
- 2 x 3/2 directional poppet valve with check valves in the inlet
- Possible to install accumulators up to 3.5 l directly on the flange
- **Optional**  
Control can be extended using ML function modules directly on the flange
- Additional T port in the flange

## Technical specifications

$P_{max}$  = up to 250 bar  
 $Q_{max}$  = up to 20 l/min

According to EN 60034-1 suitable for:

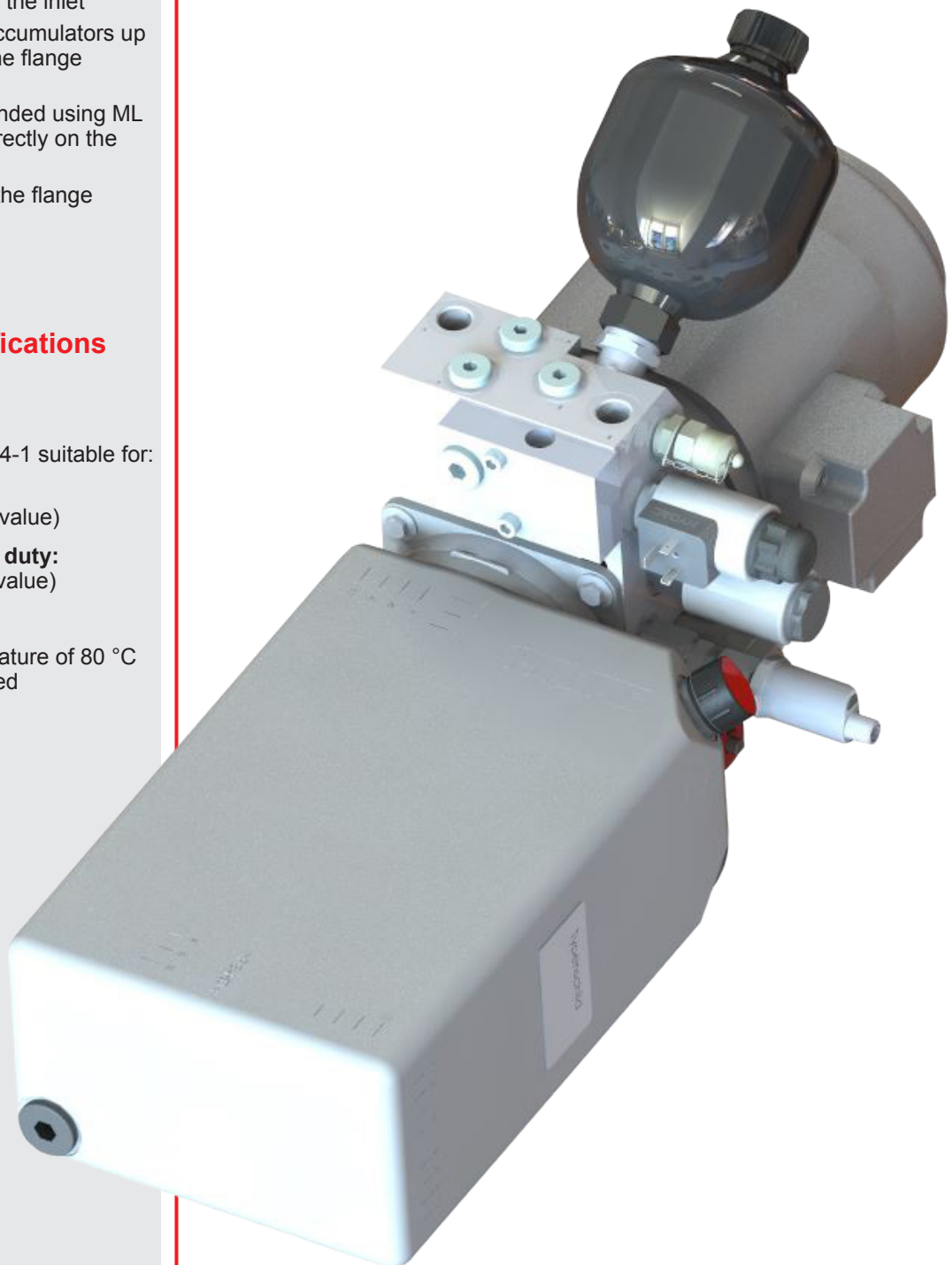
**Short-time duty:**  
S2 = 5 min\* (average value)

**Intermittent periodic duty:**  
S3 = 20 %\* (average value)

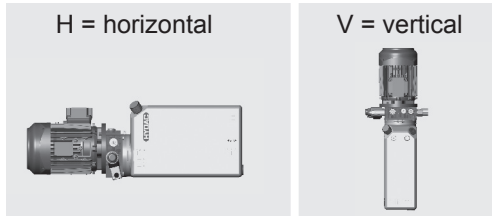
\* maximum oil temperature of 80 °C must not be exceeded

## HYDAC Compact Power Unit CO1 MC21

### For auxiliary functions in machine tools



## Mounting position of power unit



## Motor / reservoir orientations



NOTE: Reservoir orientation T not possible if ML stacking valves are to be added

## Model code

Example: **CO1 H B05 R - 2.4 - 170 - 03 - TSM - MC21 - DV - C R RT - CE150 - DN R - M1/M - M2/EDS8 + PS-SBO + 24DG + ML**

Power unit	Flange control	Add-on equipment	Valve voltage	Build-on control
<p><b>Power unit series</b></p> <p><b>Installation position</b>                      H = horizontal                      V = vertical</p> <p><b>Oil reservoir (see 1.0 Oil reservoir)</b>                      B04 = length 165 mm                      B05 = length 220 mm                      B08 = length 340 mm                      B12 = length 500 mm</p> <p><b>Motor / reservoir orientation</b>                      L left                      T top (ML stacking valves cannot be added)                      R right</p> <p><b>Flow rate + pressure (see 2.0 Flow rate and pressure)</b></p> <p><b>Motor voltage (see 2.0 Flow rate and pressure)</b>                      03 { 3 phase 230/400 V - 50 Hz                      { 3 phase 257/480 V - 50 Hz</p> <p><b>Thermal overload</b>                      - no details, without thermal overload = standard                      TSM thermal overload motor, set temperature 80 °C                      TSO thermal overload oil, set temperature 80 °C } on request</p> <p><b>Valves</b>                      * { DV = mechanical accumulator relief (DV5E)                      { V = WSM 06020 V                      { W = WSM 06020 W                      { WN = WSM 06020 W - 01M                      { C = WSM08130C                      { D = WSM08130D                      { DN = WSM08130D..01M... with manual override                      { O = without WSM08</p> <p><b>Optional</b>                      { R = check valve (without RV, no details)                      { RT = check valve in the return line (without RV, no details)</p> <p><b>Pressure relief valve</b>                      e.g. 250 V = DB4E up to 250 bar (not pre-set)                      250V200 = DB4E pre-set to 200 bar                      CE160 = DB4E ... CE (CE approved) set to 160 bar</p> <p><b>Add-on equipment</b>                      { M = Minimes                      { DS1 = mech. pressure switch 10-100 bar (connector not supplied)                      { DS2 = mech. pressure switch 50-200 bar (connector not supplied)                      { EDS3 = EDS 3446-2-250-000                      { EDS8 = EDS 8446-2-250-000                      { MA1 = Ø 63 mm pressure gauge c/w adapter 160 bar                      { MA2 = Ø 63 mm pressure gauge c/w adapter 250 bar                      { MA4 = Ø 63 mm pressure gauge c/w adapter 400 bar</p> <p><b>Accumulator</b>                      SBO1 = accumulator SBO210-0.16      SBO10 = accumulator SBO210-1                      SBO3 = accumulator SBO210-0.32      SBO14 = accumulator SBO210-1.4                      SBO5 = accumulator SBO210-0.5      SBO20 = accumulator SBO210-2.0                      SBO7 = accumulator SBO210-0.75      SBO35 = accumulator SBO210-3.5</p> <p><b>Valve voltage</b>                      24DG = 24 V DC coil without plug (standard)                      230AG = 230 V AC coil without plug (standard)                      Z4 = with plug Z4 (no details: no plug)</p> <p><b>Build-on control</b>                      ML = Valve stacking module from the ML range (see brochure no. 5.308 ML)</p>				

Pos. e.g. 04 see circuit diagram

## 1.0 Oil reservoir

Reservoir code	Filling volume / Usable volume [l]**			Reservoir length [mm]
	Horizontal, reservoir position R and L	Horizontal, reservoir position T**	Vertical	
<b>B04</b>	1.9 / 1.5	2.2 / 2.0	1.8 / 1.2	165* ± 5
<b>B05</b>	2.7 / 2.2	3.0 / 2.7	3.0 / 2.4	220* ± 5
<b>B08</b>	4.4 / 3.5	5.1 / 4.6	5.1 / 4.5	340* ± 5
<b>B12</b>	6.5 / 5.2	8.4 / 7.6	8.4 / 7.8	500* ± 5

\* where mounted horizontally, support for oil reservoir must be provided by the customer – see dimensions

\*\* cannot be selected if stacking valves or ML build-on control are to be added

\*\*\* the usable volume given is the maximum value (achieved with a clean suction filter, low to medium flow rate and viscous fluid!)

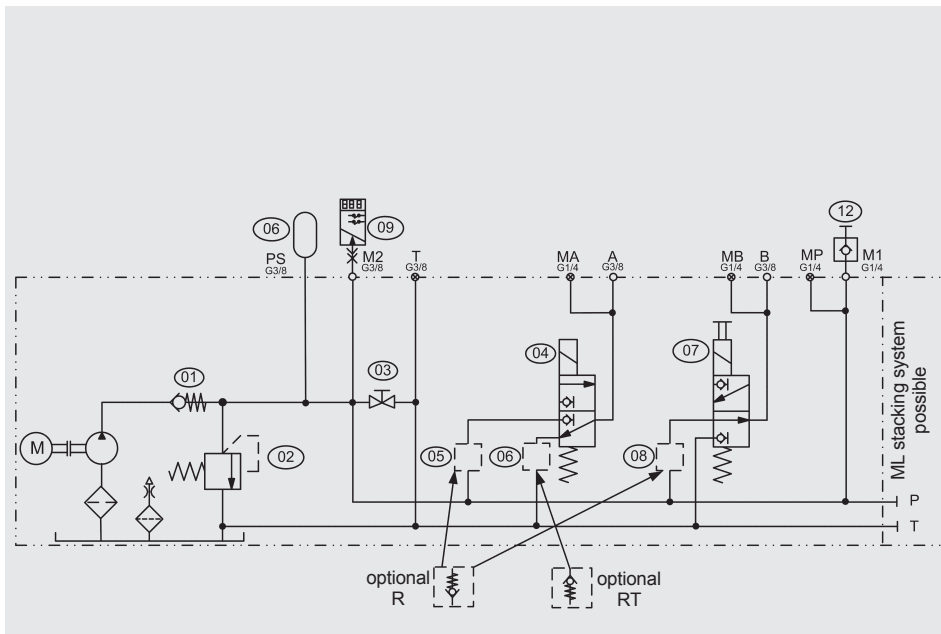
Subject to modifications.

## 2.0 Flow rate and pressure

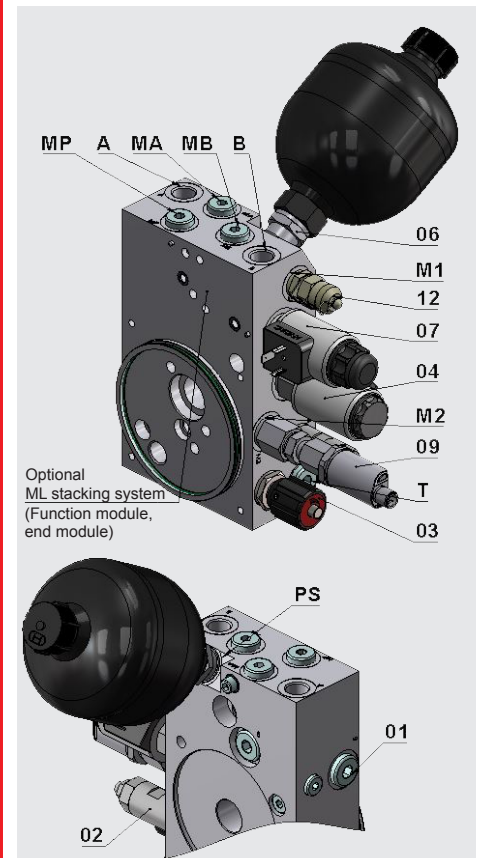
Flow rate				Motor output at 3 ~ 50 Hz 230 / 400 V Motor also suitable for 3 ~ 60 Hz 257 / 480 V } Motor code 03							Motor code 63 1 ~ 50 Hz / 230 V	
50 Hz [l/min]	60 Hz [l/min]	No. poles on motor	Displ. pump [ccm/rev]	0.37 kW [bar]	0.55 kW [bar]	0.75 kW [bar]	1.1 kW [bar]	1.5 kW [bar]	2.2 kW [bar]	3.0 kW [bar]	1.5 kW [bar]	
1.3	1.6	4	1.0	215	250						250	
2.4	2.9	4	2.0	110	170	235	250				250	
3.7	4.4	4	2.65	75	115	155	230	250			230	
5.0	6.0	4	3.75	50	85	115	170	230	250		180	
6.3*	7.6*	4	4.75*	40	70	90	140	185	250		140	
7.4	8.9	2	2.65						230	250		
8.6*	10.3*	4	6.3*	30	50	65	100	130	200		100	
10.0	12.0	2	3.75						165	230		
12.6*	15.1*	2	4.75*						135	185		
13.3*	16.0*	4	10.0*		30	40	60	85	120		65	
17.3*	20.7*	2	6.3*						95	130		
20.0*		2	8.0*						80	110		
				4-pole motor types are low-noise								

\* not possible with oil reservoir B04

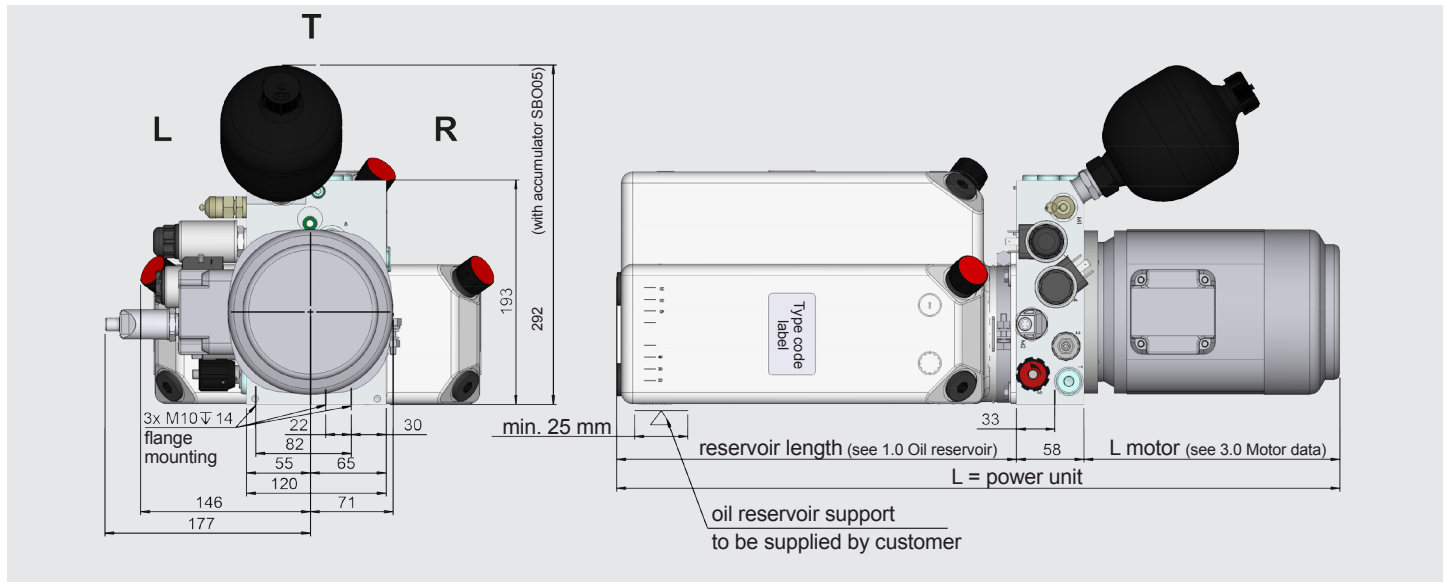
## 2.1 Hydraulic circuit



## 2.2 Flange unit



## Dimensions



### 3.0 Motor data

P [kW]	No. of poles	L motor [mm]	ø motor [mm]
0.37	4	220 ± 5	141 ± 5
0.55	4	220 ± 5	141 ± 5
0.75	4	220 ± 5	141 ± 5
1.1	4	255 ± 5	159 ± 5
1.5	4	255 ± 5	159 ± 5
2.2	2	255 ± 5	159 ± 5
2.2*	4	280 ± 5	176 ± 5
3*	2	280 ± 5	176 ± 5

\*On 2.2 and 3 kW motors the flange must have at least 15 mm of support.

### 3.1 Specifications

Flow rate:	up to 20.0 l/min
Operating pressure:	max. 250 bar
Coil duty rating:	S2 (short-time duty) : 5 min S3 (intermittent periodic duty) : 20 %
Motor:	PN = 0.37 kW ... 3.0 kW (4; 5.5 kW on request)
Motor voltages:	3 phase 230/400 V - 50 Hz (other motor voltages on request, min. order 10 pcs.)
Protection class:	DIN EN 60034-5 min IP54
Pump displacement:	1.0 cm <sup>3</sup> /rev. ... 10.0 cm <sup>3</sup> /rev.
Reservoir volume:	1.8 - 8.4 l
Usable volume:	1.2 - 7.8 l
Operating fluid:	Hydraulic oil to DIN 51524 Part 2
Media operating temperature range:	-20 °C to max. +80 °C
Ambient temperature range:	-20 °C to max. +40 °C
Viscosity range:	10 - 380 mm <sup>2</sup> /s is recommended
Filtration:	Class 21/19/16 according to ISO 4406 or cleaner
Cooling:	Convection or air cooling
Weight:	from 12 to 25 kg
Installation:	Vertical, horizontal

### 4.0 Safety instructions and documentation

#### 4.1 Safety instructions during operation

- Do not use the power unit for anything other than its intended purpose
- Do not exceed maximum permitted operating pressure
- Ensure adequate ventilation for heat dissipation
- Do not mount power unit onto moving parts
- Power unit and add-on equipment can get hot during operation - risk of injury!
- Refer also to HYDAC Operating Instructions and drawing no. 3111722

#### 4.2 Requirements for the installation site

- Permitted ambient temperature range -20 °C to +40 °C
- Do not mount power unit onto moving parts
- Surface finish required on mounting face 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
- Do not install in thermally insulated environment

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

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

Subject to technical modifications.

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