

"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:

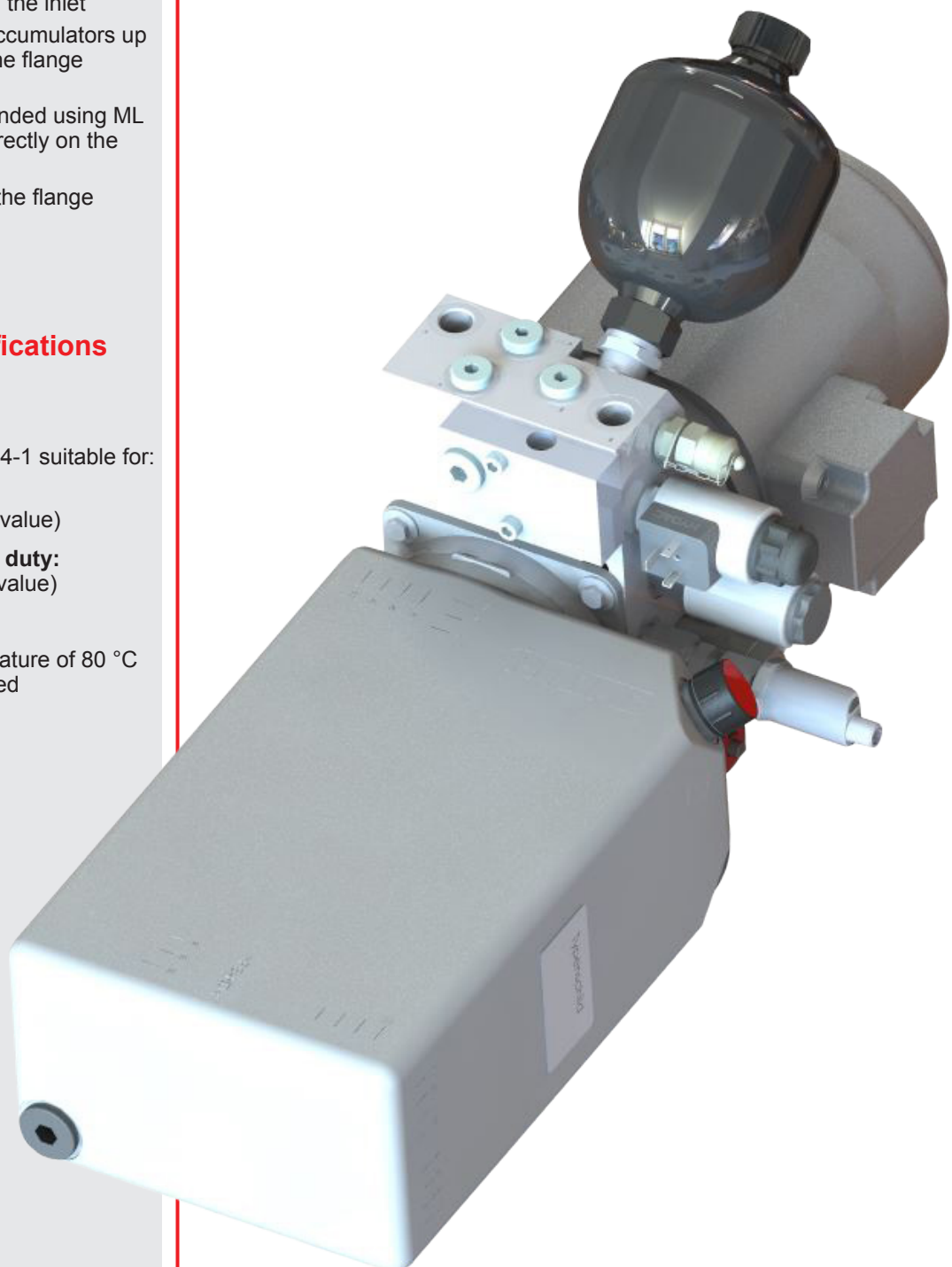
Short-time duty:
S2 = 5 min* (average value)

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

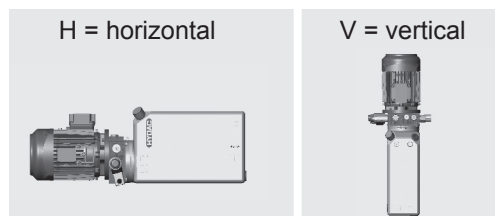
* maximum oil temperature of 80 °C must not be exceeded

HYDAC Compact Power Unit CO1 MC21

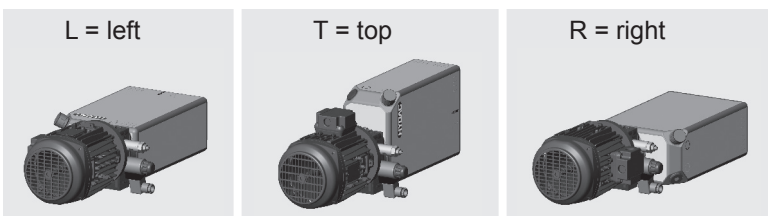
For auxiliary functions in machine tools



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		Power unit	Flange control	Add-on equipment	Valve voltage	Build-on control
		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 series		CO1				
Installation position		H				
		H = horizontal				
		V = vertical				
Oil reservoir (see 1.0 Oil reservoir)		B05				
		B04 = length 165 mm				
		B05 = length 220 mm				
		B08 = length 340 mm				
		B12 = length 500 mm				
Motor / reservoir orientation		R				
		L left				
		T top (ML stacking valves cannot be added)				
		R right				
Flow rate + pressure (see 2.0 Flow rate and pressure)		2.4				
Motor voltage (see 2.0 Flow rate and pressure)		03				
		03 { 3 phase 230/400 V - 50 Hz				
		03 { 3 phase 257/480 V - 50 Hz				
Thermal overload		TSM				
		TSM no details, without thermal overload = standard				
		TSM thermal overload motor, set temperature 80 °C				
		TSM thermal overload oil, set temperature 80 °C				
		} on request				
Valves		DV				
		DV = mechanical accumulator relief (DV5E)				
		V				
		V = WSM 06020 V				
		W				
		W = WSM 06020 W				
		WN				
		WN = WSM 06020 W - 01M				
		C				
		C = WSM08130C				
		D				
		D = WSM08130D				
		DN				
		DN = WSM08130D..01M... with manual override				
		O				
		O = without WSM08				
Optional		R				
		R = check valve (without RV, no details)				
		RT				
		RT = check valve in the return line (without RV, no details)				
Pressure relief valve		02				
		02 = DB4E up to 250 bar (not pre-set)				
		02 = DB4E pre-set to 200 bar				
		02 = DB4E ... CE (CE approved) set to 160 bar				
Add-on equipment		M				
		M = Minimes				
		DS1				
		DS1 = mech. pressure switch 10-100 bar (connector not supplied)				
		DS2				
		DS2 = mech. pressure switch 50-200 bar (connector not supplied)				
		EDS3				
		EDS3 = EDS 3446-2-250-000				
		EDS8				
		EDS8 = EDS 8446-2-250-000				
		MA1				
		MA1 = Ø 63 mm pressure gauge c/w adapter 160 bar				
		MA2				
		MA2 = Ø 63 mm pressure gauge c/w adapter 250 bar				
		MA4				
		MA4 = Ø 63 mm pressure gauge c/w adapter 400 bar				
Accumulator		SBO1				
		SBO1 = accumulator SBO210-0.16				
		SBO3				
		SBO3 = accumulator SBO210-0.32				
		SBO5				
		SBO5 = accumulator SBO210-0.5				
		SBO7				
		SBO7 = accumulator SBO210-0.75				
		SBO10				
		SBO10 = accumulator SBO210-1				
		SBO14				
		SBO14 = accumulator SBO210-1.4				
		SBO20				
		SBO20 = accumulator SBO210-2.0				
		SBO35				
		SBO35 = accumulator SBO210-3.5				
Valve voltage		24DG				
		24DG = 24 V DC coil without plug (standard)				
		230AG				
		230AG = 230 V AC coil without plug (standard)				
		Z4				
		Z4 = with plug Z4 (no details: no plug)				
Build-on control		ML				
		ML = Valve stacking module from the ML range (see brochure no. 5.308 ML)				

Pos. e.g. 04 see circuit diagram

1.0 Oil reservoir

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

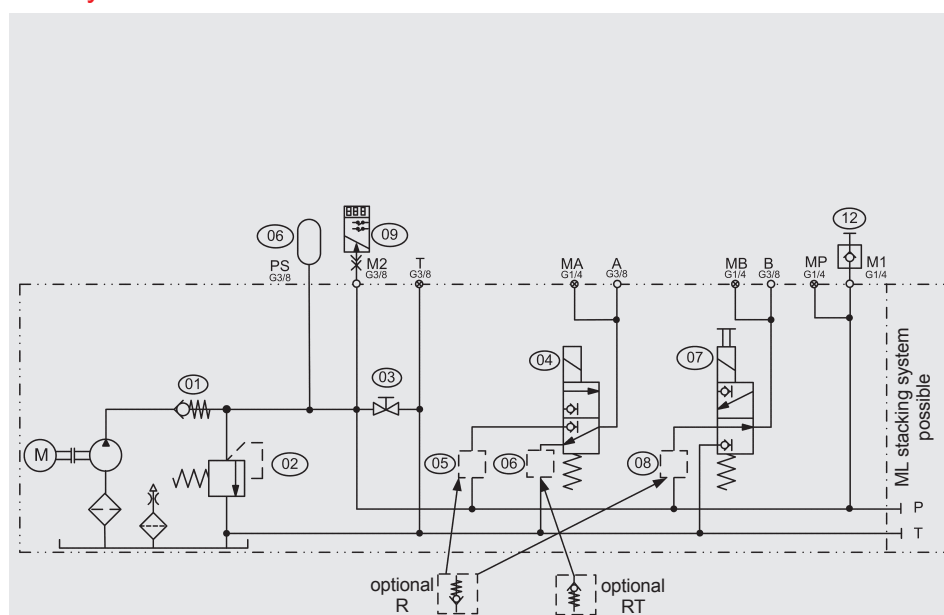
Subject to modifications.

2.0 Flow rate and pressure

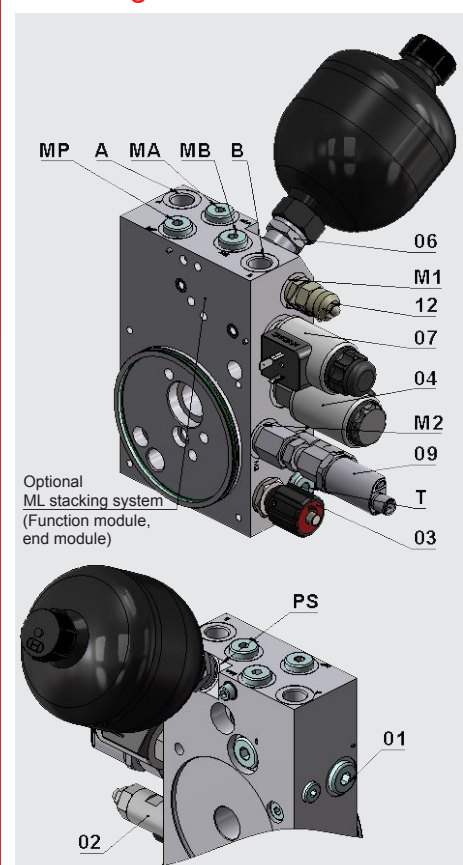
Flow rate				Motor output at 3 ~ 50 Hz 230 / 400 V Motor also suitable for 3 ~ 60 Hz 257 / 480 V } Motor code 03							Motor code 63 1 ~ 50 Hz / 230 V	
50 Hz [l/min]	60 Hz [l/min]	No. poles on motor	Displ. pump [ccm/rev]	0.37 kW [bar]	0.55 kW [bar]	0.75 kW [bar]	1.1 kW [bar]	1.5 kW [bar]	2.2 kW [bar]	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

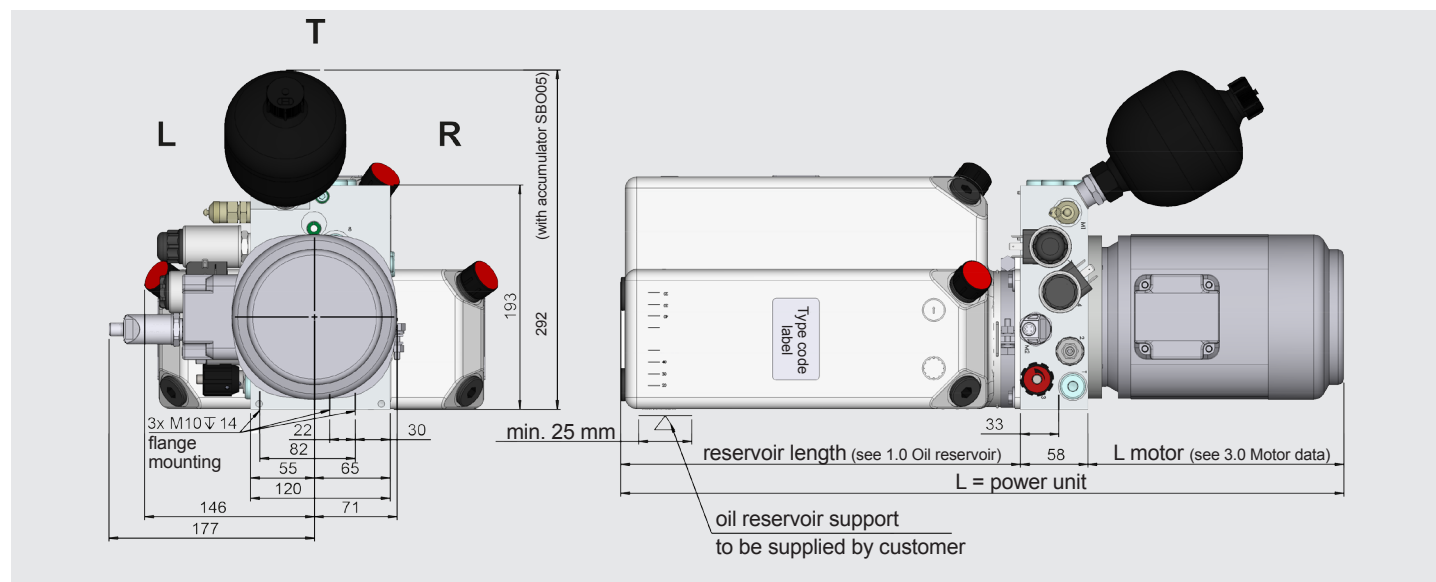
2.1 Hydraulic circuit



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 cm³/rev. ... 10.0 cm³/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 mm²/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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