LOW SPEED HIGH TORQUE HYDRAULIC MOTORS

GENERAL INFORMATION

Applications:
-Agricultural harvesters and seeders
-Conveyors
-Machine tools
-Food industries
-Turn equipment
-Brush drivers
-Sweepers and floor polishers
-Screw drivers
-and more

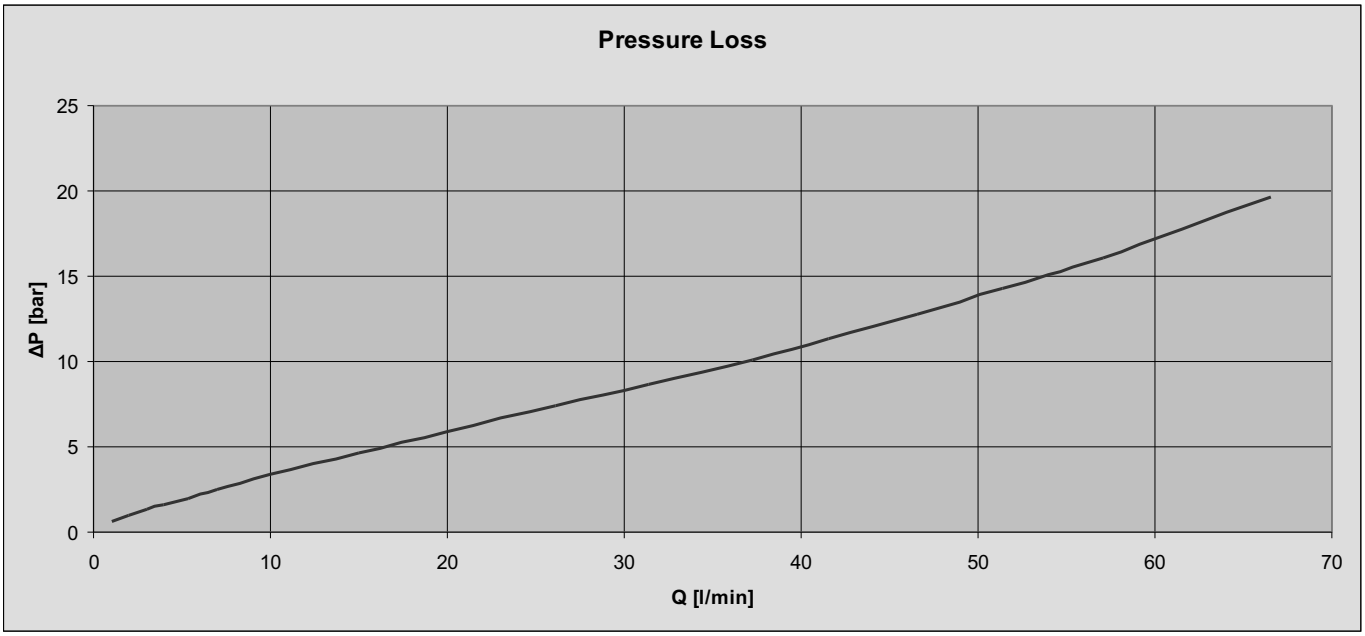
MGL motors are a light series in CAPRONI product line. MGL motors are characterized with a simple and reliable design due to a spool valve and a G-rotor. There is no more necessity of a drain line and check valves, because of the availability of a high pressure seal with a high efficiency.
MGL motors are a lighter and economical version of the standard G-rotor orbital motors, and they can replace the last in almost all their applications.

Displacement	[cm^3/rev.]	50 ÷ 315
Maximum pressure	[bar]	140
Maximum oil flow	[lpm]	25 ÷ 60
Maximum speed	[RPM]	603
Maximum torque	[daNm]	7.4 ÷ 30.5
Minimum speed	[RPM]	10
Temperature range	[°C]	-30 ÷ 90
Viscosity range	[mm^2/s]	20 ÷ 75

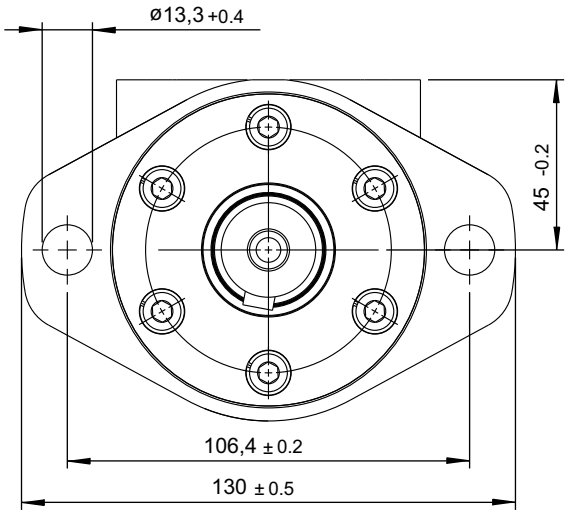
PERFORMANCE DATA

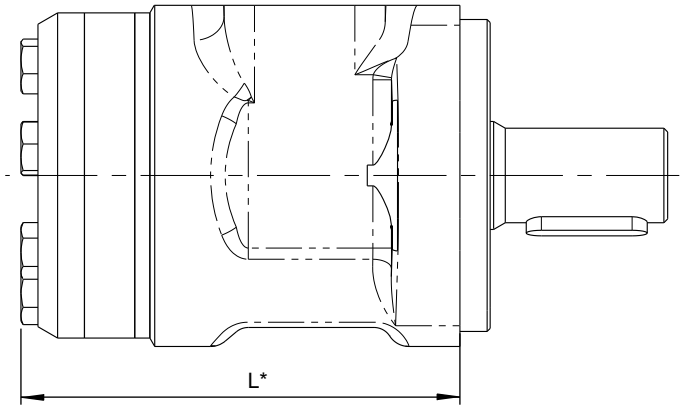
Type		MGL 50	MGL 80	MGL 100	MGL 125	MGL 160	MGL 200	MGL 250	MGL 315
Displacement [cm^3/rev.]		49.7	79.2	101.2	122.8	159.3	200.8	249.7	314.6
Max. Speed	Cont.	790	480	490	390	300	240	230	190
	Int.*	990	615	590	470	360	290	270	220
Max. Torque [daNm]	Cont.	7,4	11	14,7	19,5	24,6	28	28,4	30,5
	Int.*	8,8	13,4	18,2	23,2	28,2	34	34,5	38,2
Max. Output [KW]	Cont.	5,4	5,4	7,4	7,6	7,6	6,9	6,7	5,9
	Int.*	7,3	8,9	11	11	10,4	10,1	9,6	8,6
Max. Oil Flow [l/min]	Cont.	40	40	50	50	50	50	60	60
	Int.*	50	50	60	60	60	60	70	70
Max. Pressure Drop [bar]	Cont.	140	140	140	140	140	115	105	90
	Int.*	175	175	175	175	175	150	120	110
	Peak**	200	200	200	200	200	200	175	150
Min. Speed [RPM]		10	10	10	10	10	10	10	10

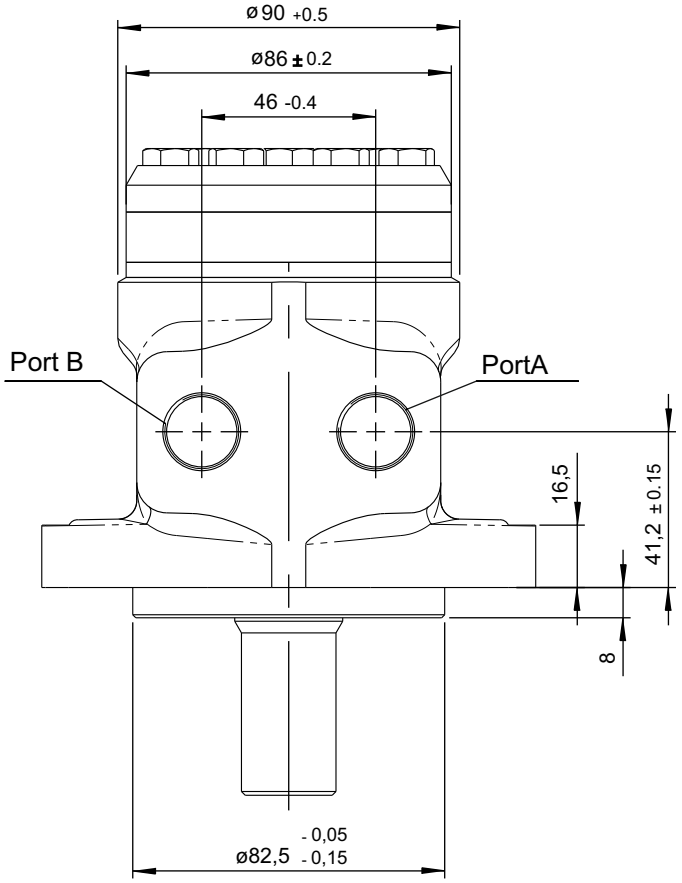
* Intermittent duty must not exceed 10% of every minute
** Peak duty must not exceed 1% of every minute



MOUNTING





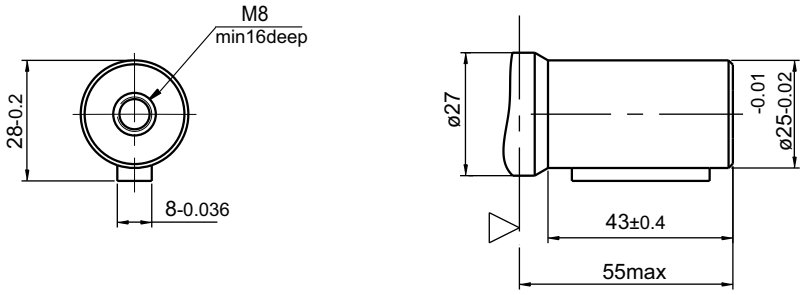


Type	L*	Weight [kg]
MGL 50 …	109	5,1
MGL 80 …	112	5,2
MGL 100 …	116	5,34
MGL 125 …	120	5,5
MGL 160 …	125	5,66
MGL 200 …	128	5,78
MGL 250 …	135	6
MGL 315 …	141	6,2

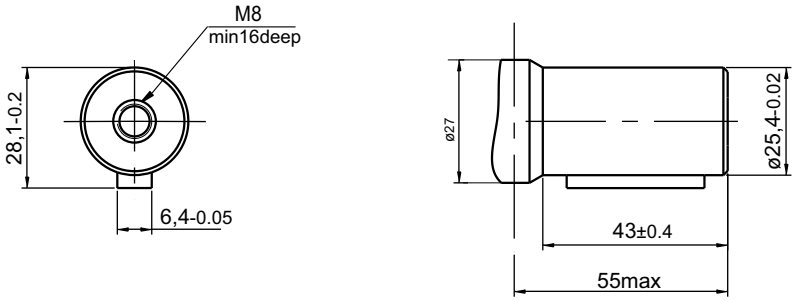
Port(A,B): 2xG1/2 or 2xM22x1,5 - 15mm depth

SHAFTS

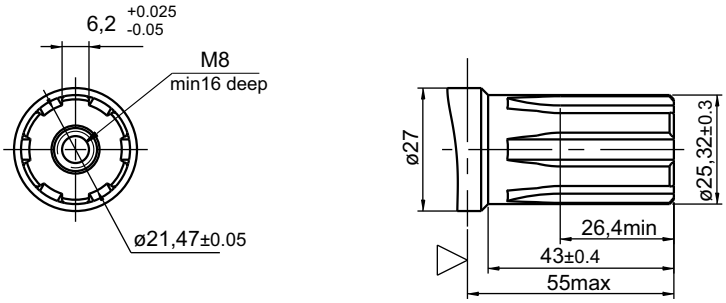
S - Parallel key A8x7x32 DIN 6885
Max. torque 34daNm



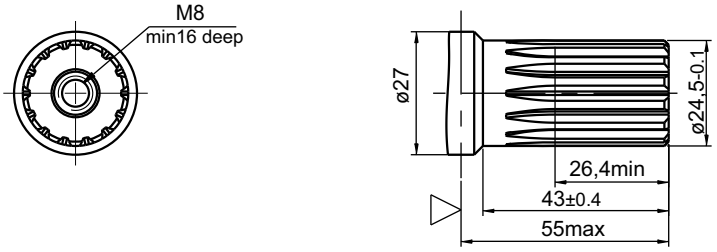
SC - Parallel key $^{1}/_{4}$"x$^{1}/_{4}$"x1$^{1}/_{4}$" BS46
Max. torque 34daNm



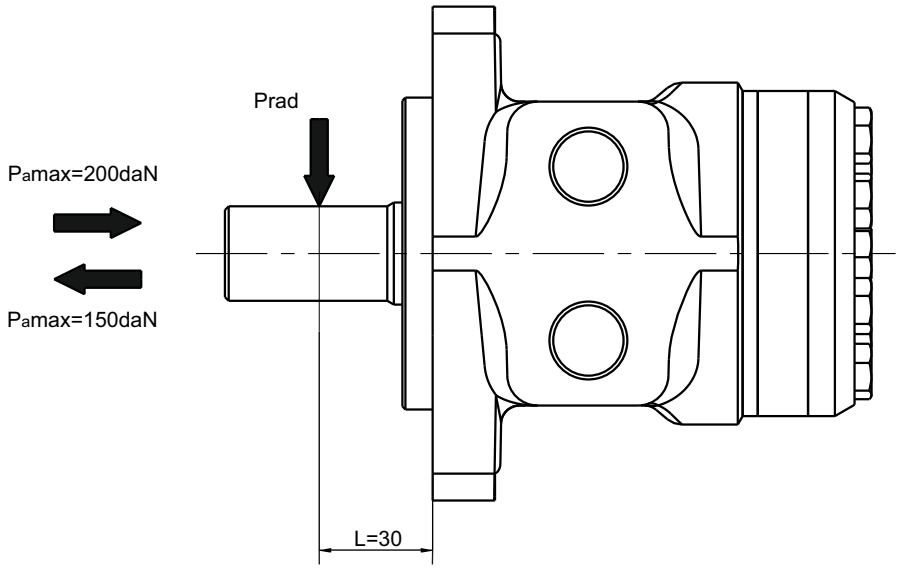
SB - Splined, BS2059, Deep splines1', Fit2
Max. torque 40daNm

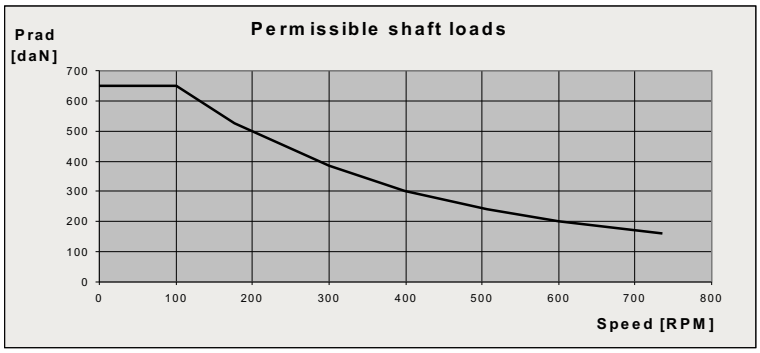


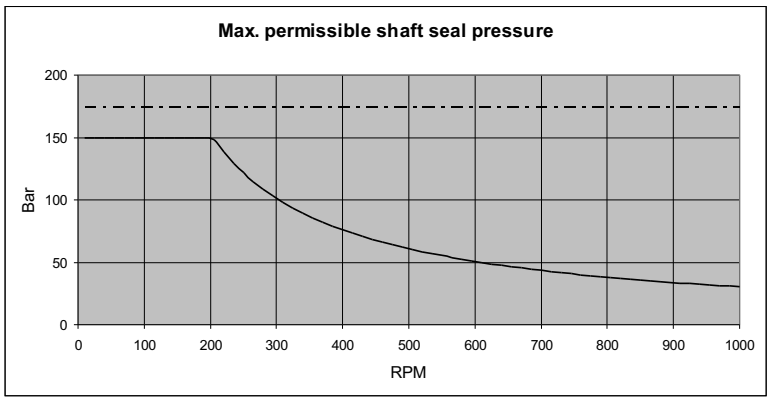
SE - Splined DIN5482, B25x22 h9
Max. torque 40daNm

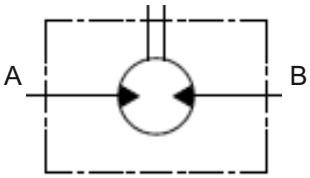


TECHNICAL DATA









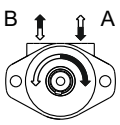
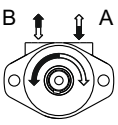
The shaft seal pressure equals the Port B pressure.

—— Continuous range

-·-·- Intermittent range /max. 10% of every minute/

ORDERING CODE

__MGL__ __ __1/P1__ __ __

1MGL	2MGL
Standard Rotation 	Reverse Rotation 

CODE	Ports
G	G1/2"
M	M22x1,5

Standard option

CODE	Displacement cm^3/rev
50	49.7
80	79.2
100	101.2
125	122.8
160	159.3
200	200.8
250	249.7
315	314.6

CODE	Shafts
S	Ø25mm straight, Parallel key A8x7x32 DIN6885
SC	Ø25,4mm straight, Parallel key 1/4"x1/4"x11/4" BS46
SB	Ø25,32mm Splined, BS2059
SE	Ø24,5mm Splined B25x22 h9, BS5482

CODE	Special features
T	Painted(standard color RAL9005)*
TC3	Painted, class C3-DIN EN ISO12944 (standard color RAL9005)*

* Colour at customer's request.

Applications:
-Agricultural harvesters and seeders
-Conveyors
-Machine tools
-Food industries
-Turn equipment
-Brush drivers
-Sweepers and floor polishers
-Screw drivers
-and more

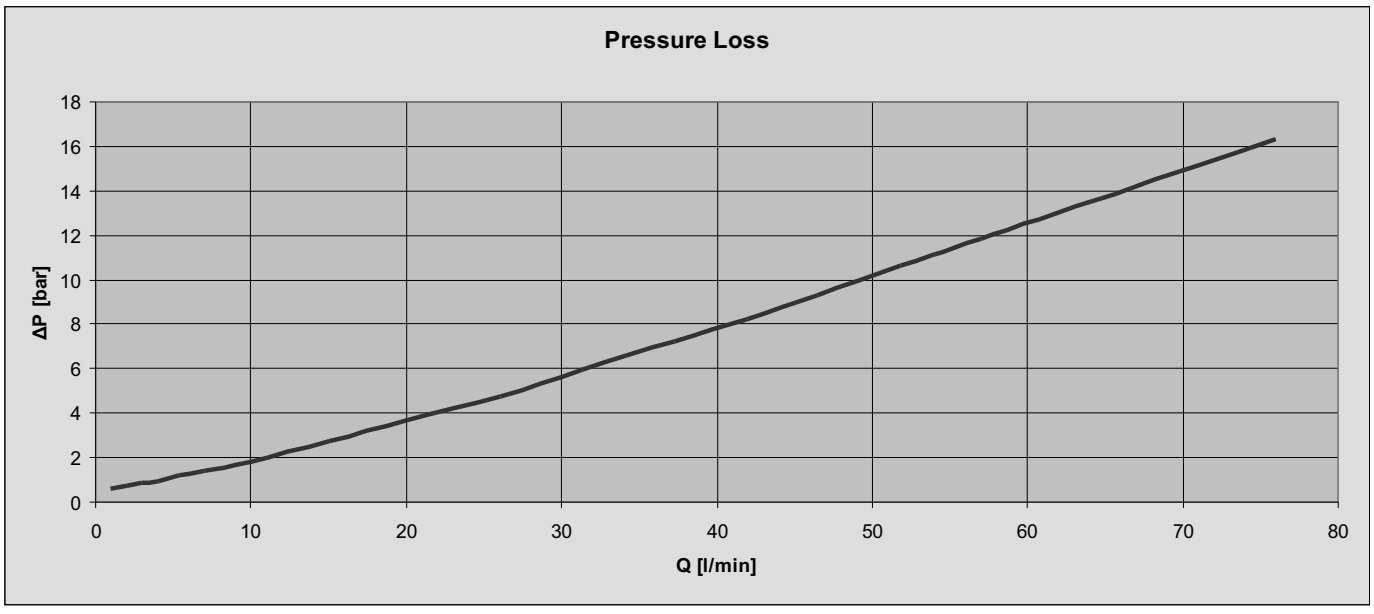
MHL motors are created for medium duty applications on the basis of a spool valve that is optimized for a higher efficiency, and a G-rotor. The check valves built-in the motor can reduce the pressure in the internal area to the return line pressure.
The motor can be made in versions with seals for low, for high pressure or extremely high pressure.

Displacement	[cm^3/rev.]	50 ÷ 400
Maximum pressure	[bar]	175
Maximum oil flow	[lpm]	25 ÷ 60
Maximum speed	[RPM]	1200
Maximum torque	[daNm]	9.4 ÷ 37.5
Minimum speed	[RPM]	10
Temperature range	[°C]	-30 ÷ 90
Viscosity range	[mm^2/s]	20 ÷ 75
Filtration		20/16 ISO 4406 (recommended filtration 25µ)

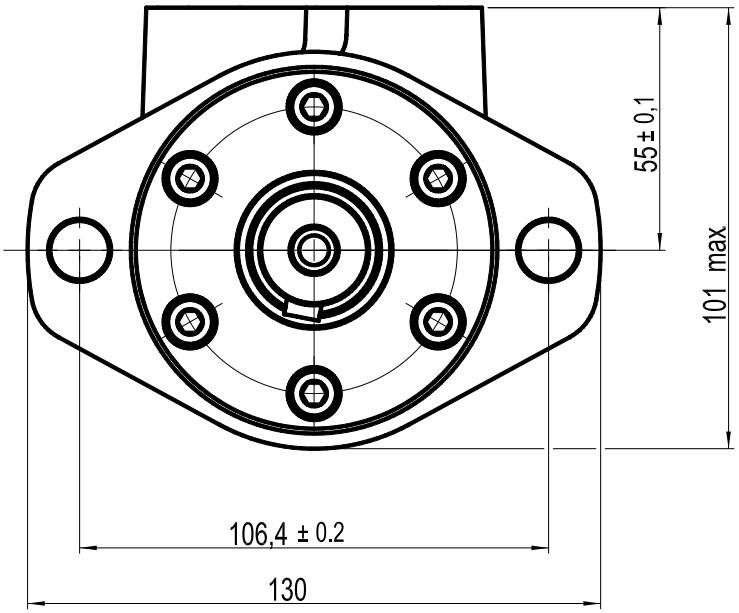
PERFORMANCE DATA

Type		MHL 50	MHL 80	MHL 100	MHL 125	MHL 160	MHL 200	MHL 250	MHL 315	MHL 400
Displacement [cm^3/rev.]		49.7	79.2	101.2	122.8	159.3	200.8	249.7	314.6	398
Max. Speed	Cont.	1200	750	600	480	375	300	240	190	150
	Int.*	1500	940	750	600	470	375	300	230	180
Max. Torque [daNm]	Cont.	9,4	15	18,5	23,9	30,5	37	37,5	38	36
	Int.*	11,8	19	23	29	37	45	55	56	58
Max. Output [KW]	Cont.	10	10	10	10	10	9,5	7,5	5,9	4,5
	Int.*	12	12	12	12	12	11	11	8,6	7,8
Max. Oil Flow [l/min]	Cont.	60	60	60	60	60	60	60	60	60
	Int.*	75	75	75	75	75	75	75	75	75
Max. Pressure Drop [bar]	Cont.	140	140	140	140	140	140	110	90	70
	Int.*	175	175	175	175	175	175	175	140	115
	Peak**	225	225	225	225	225	225	225	200	180
Max. Inlet/Return Pressure [bar]	Cont.	175	175	175	175	175	175	175	175	175
	Int.*	200	200	200	200	200	200	200	200	200
	Peak**	225	225	225	225	225	225	225	225	225
Min. Speed [RPM]		10	10	10	10	10	10	10	10	10

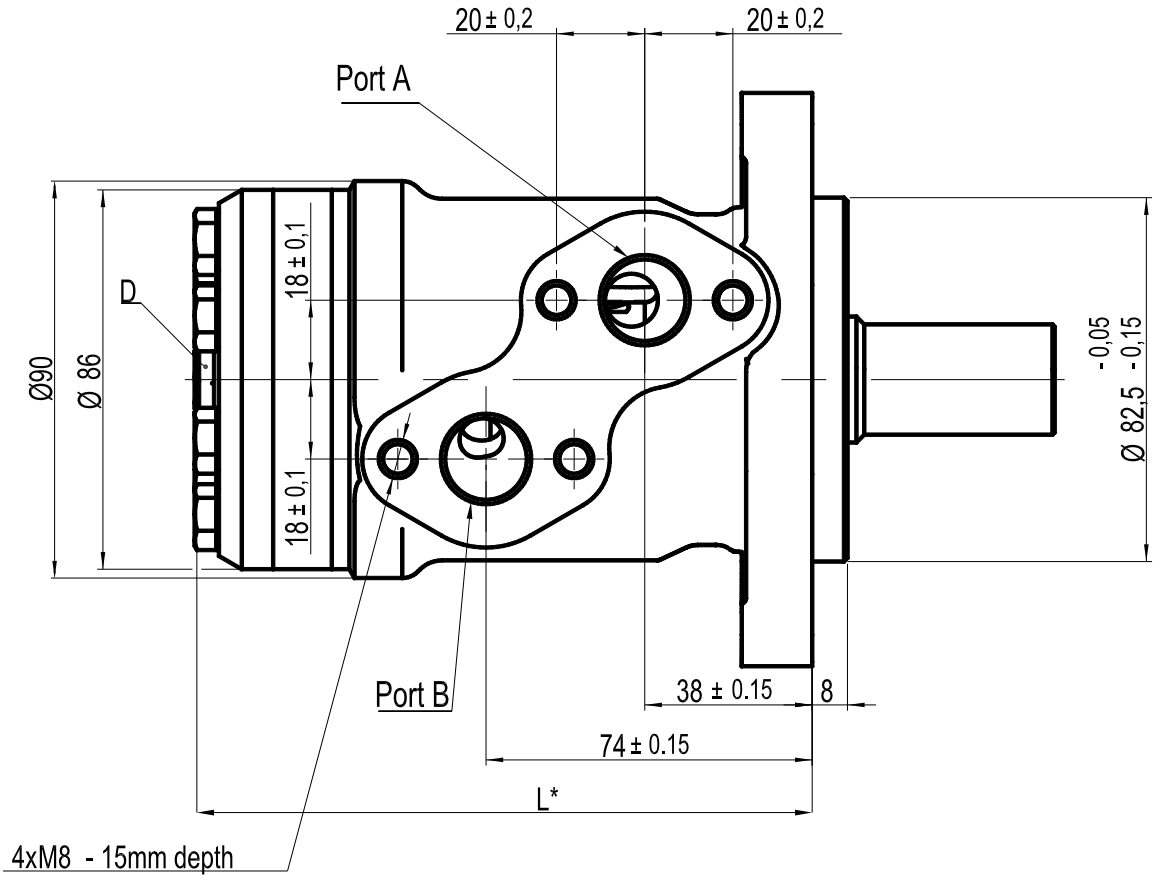
* Intermittent duty must not exceed 10% of every minute
** Peak duty must not exceed 1% of every minute



MOUNTING



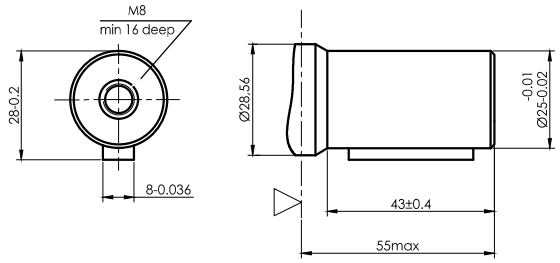
Type	L* [mm]	Weigh [Kg]
MHL 50 …	133	6
MHL 80 …	136	6,1
MHL 100 …	140	6,3
MHL 125 …	144	6,4
MHL 160 …	149	6,6
MHL 200 …	152	6,7
MHL 250 …	159	6,9
MHL 315 …	165	7,2
MHL 400 …	178	7,6



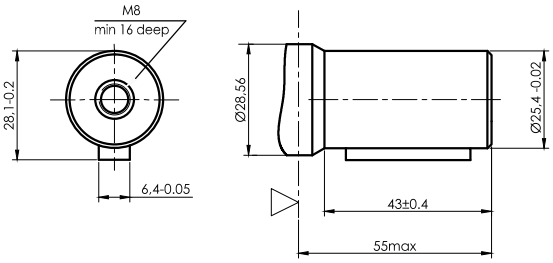
Port(A,B): 2xG1/2 or 2xM22x1,5 - 15mm depth
Port(D):G1/4 or M14x1,5 -12mm

SHAFTS

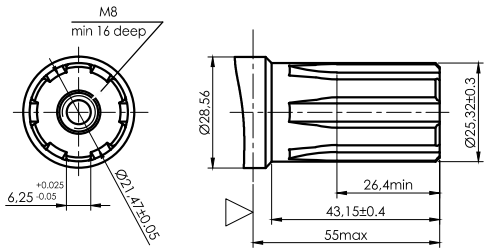
S - Parallel key A8x7x32 DIN 6885
Max. torque 34daNm



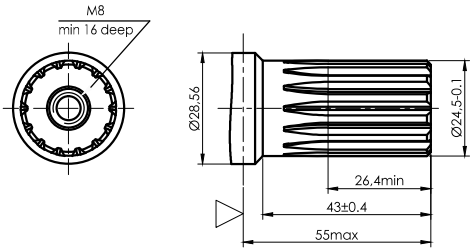
SC - Parallel key ¼" x¼" x 1¼" BS46
Max. torque 34daNm



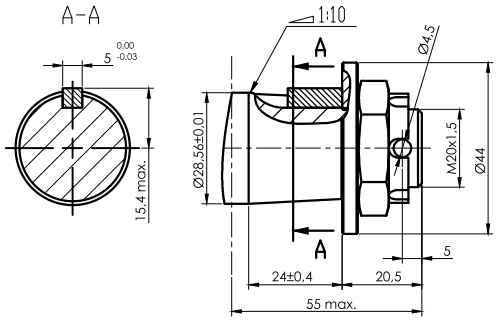
SB - Splined, BS 2059, Deep splines 1', Fit 2
Max. torque 40daNm



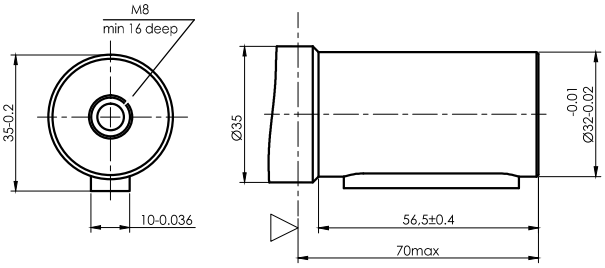
SE - Splined DIN 5482, B25x22 h9
Max. torque 40daNm



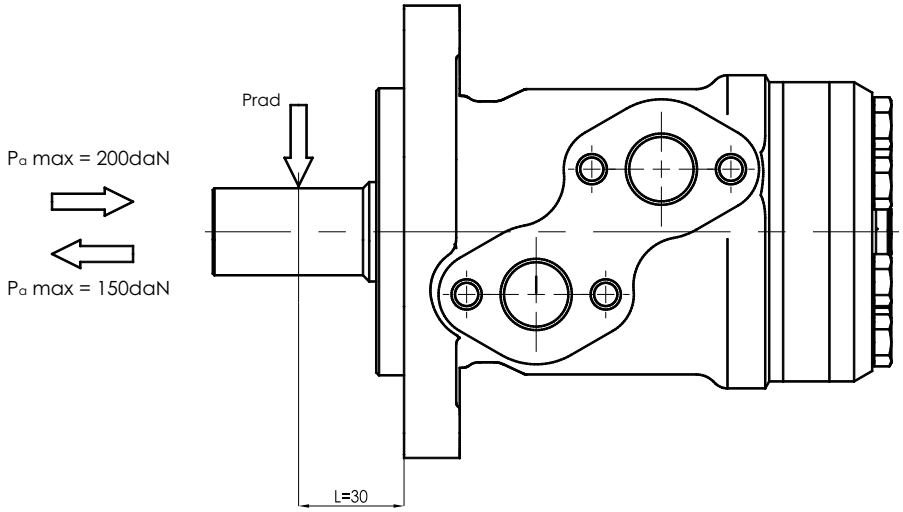
SK - Tapered 1:10, Parallel key B5x5x14 DIN 6885
Max. torque 40daNm

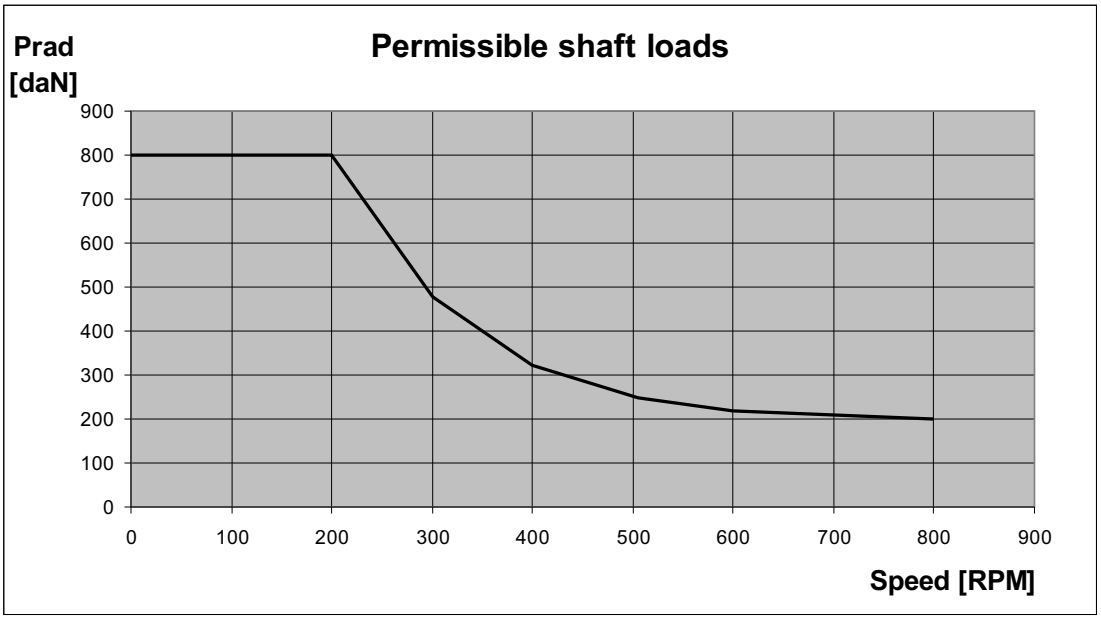


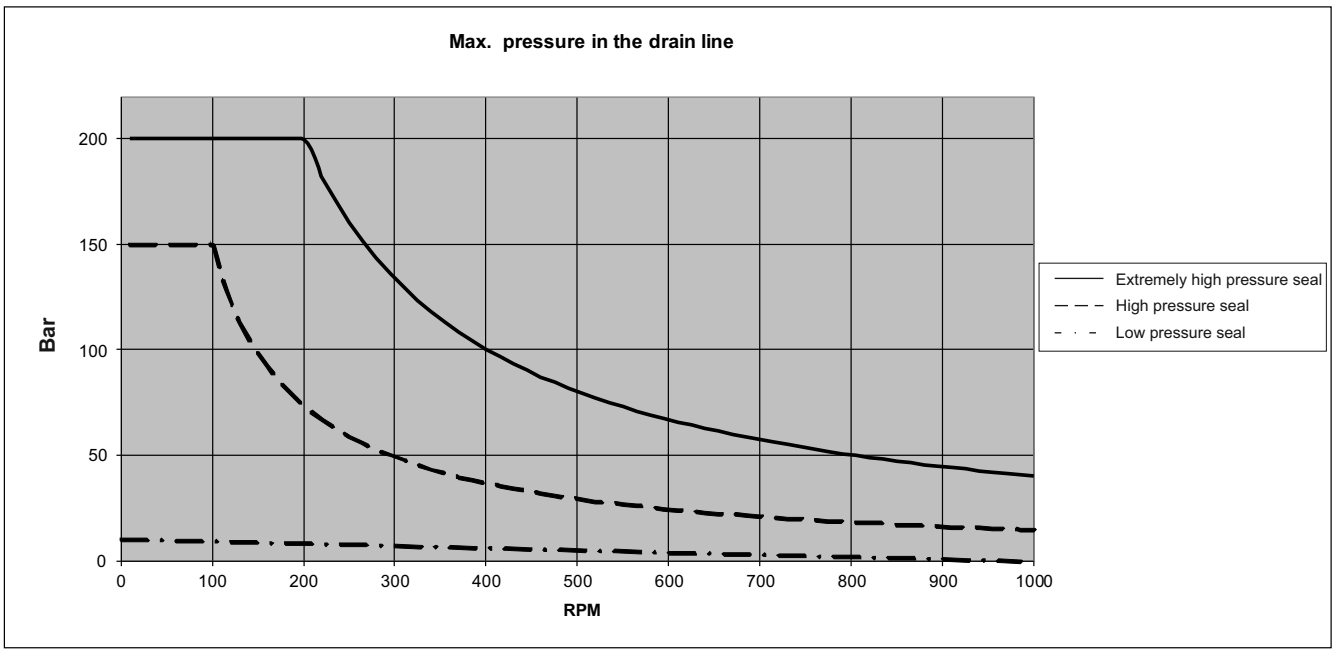
B - Parallel key A10x8x45 DIN 6885
Max. torque 77daNm



TECHNICAL DATA

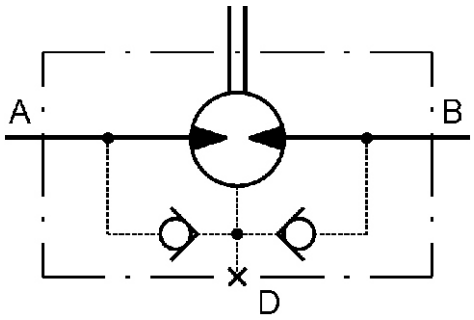




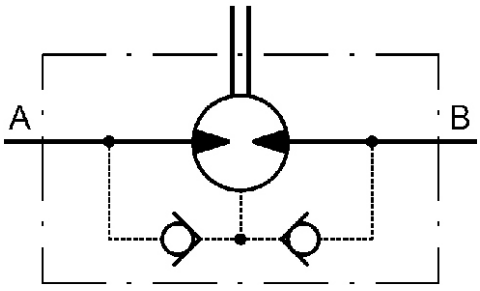


TECHNICAL DATA

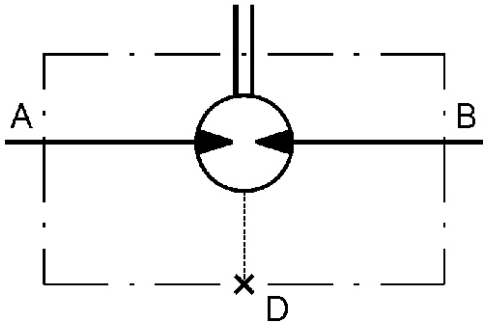
The motors can be made with or without check valves. If drain pressure exceed the rate of figure, the drain line must be connected.
An option with a seal for low pressure can be chosen if the drain port is connected or the motor operates separately or in parallel circuit.
An option with a seal for high pressure or extremely high pressure should be chosen in case the motor operates in series connection and the drain port is not connected.
In any case, the connection of the drain port is recommended for prolonging the validity term of the shaft seal.



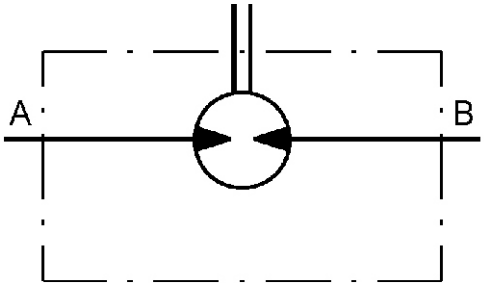
..MHL...12, motors with low pressure seal and high pressure seal.
The shaft seal pressure equals the pressure in the drain line.



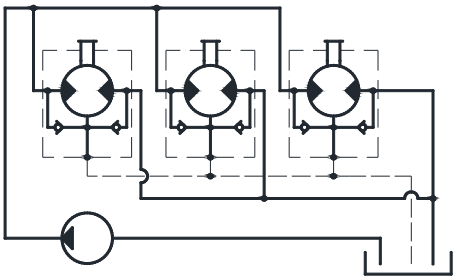
..MHL...1, motors with low pressure seal and high pressure seal.
The shaft seal pressure never exceeds the pressure in the return line.



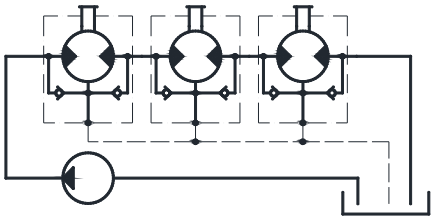
..MHL...2, motors with extremely high pressure seal.
The shaft seal pressure equals the pressure in the drain line.



..MHL..., motors with extremely high pressure seal.
The shaft seal pressure equals the average of input pressure and return pressure.



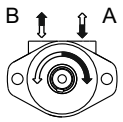
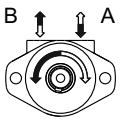
Parallel connection



Series connection

ORDERING CODE

MHL

1MHL	2MHL
Standard Rotation 	Reverse Rotation 

CODE	Displacement cm^3/rev
50	49.7
80	79.2
100	101.2
125	122.8
160	159.3
200	200.8
250	249.7
315	314.6
400	398

CODE	Check valves
1	with
omit	without

CODE	Drain port
2	with
omit	without

CODE	Ports
G	G1/2"
M	M22x1,5

CODE	Shaft seal
omit	Low pressure or for “B” shaft
H	High pressure
Y	Extremely high pressure

CODE	Shafts
S	Ø25mm straight, Parallel key A8x7x32 DIN6885
SC	Ø25,4mm straight, Parallel key 1/4"x1/4"x11/4" BS46
SB	Ø25,32mm Splined, BS2059
SE	Ø24,5mm Splined B25x22 h9, BS5482
SK	Ø28,56mm Tapered 1:10, Parallel key B5x5x14 DIN6885
B	Ø32mm straight, Parallel key A10x8x45 DIN6885

CODE	Special features
T	Painted(standard color RAL9005)*
TC3	Painted, class C3-DIN EN ISO12944 (standard color RAL9005)*
SP	Speed sensor

* Colour at customer’s request.

Applications:
-Agricultural harvesters and seeders
-Conveyors
-Machine tools
-Food industries
-Turn equipment
-Brush drivers
-Sweepers and floor polishers
-Screw drivers
-and more

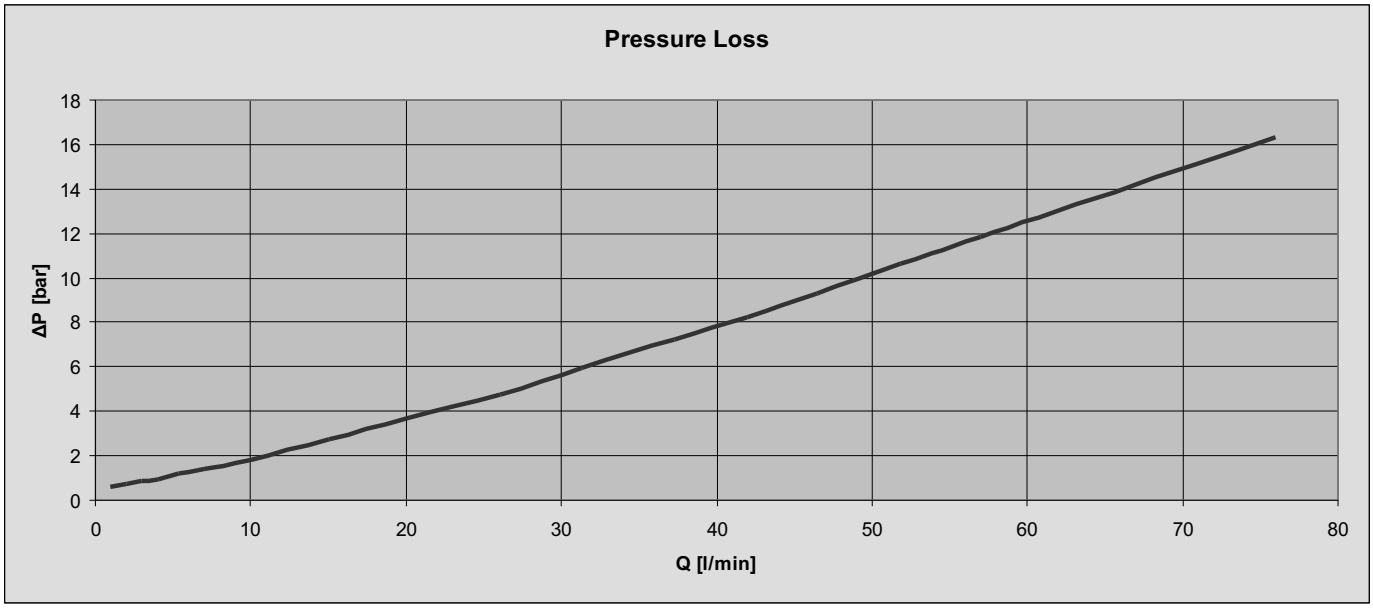
MHLR motors are created for medium duty applications on the basis of a spool valve that is optimized for a higher efficiency, and a G-roller stator. G-roller consists of precise rollers to eliminate the friction between the rotor and the stator, and they additionally increase the efficiency of the motor by app. 15%.The check valves built-in the motor can reduce the pressure in the internal area to the return line pressure.
The motor can be made in versions with seals for low, for high pressure or extremely high pressure.

Displacement	[cm^3/rev.]	50 ÷ 400
Maximum pressure	[bar]	175
Maximum oil flow	[lpm]	25 ÷ 60
Maximum speed	[RPM]	770
Maximum torque	[daNm]	10 ÷ 38
Minimum speed	[RPM]	10
Temperature range	[°C]	-30 ÷ 90
Viscosity range	[mm^2/s]	20 ÷ 75
Filtration		20/16 ISO 4406 (recommended filtration 25µ)

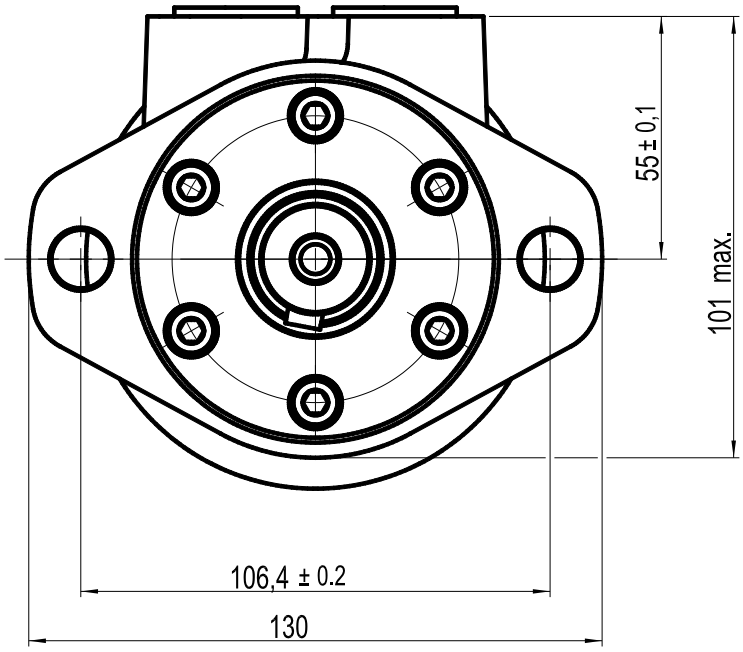
PERFORMANCE DATA

Type		MHLR 50	MHLR 80	MHLR 100	MHLR 125	MHLR 160	MHLR 200	MHLR 250	MHLR 315	MHLR 400
Displacement [cm^3/rev.]		50,8	80,6	101,5	124,3	158,8	201,2	251,3	314,3	399,1
Max. Speed	Cont.	770	740	600	470	370	300	240	190	150
	Int.*	950	920	740	590	480	370	300	230	180
Max. Torque [daNm]	Cont.	10	19.5	24	29,5	39	39	39	38	38
	Int.*	13	22	28	34	43	46	47	47	44
Max. Output [KW]	Cont.	7	13	13	13	13	9	8	5,9	4,5
	Int.*	8,5	15	15,5	14,5	14	11	10	8,6	7,8
Max. Oil Flow [l/min]	Cont.	40	60	60	60	60	60	60	60	60
	Int.*	50	75	75	75	75	75	75	75	75
Max. Pressure Drop [bar]	Cont.	140	175	175	175	175	140	110	85	65
	Int.*	175	200	200	200	200	175	140	115	90
	Peak**	225	225	225	225	225	225	200	150	115
Max. Inlet/Return Pressure [bar]	Cont.	175	175	175	175	175	175	175	175	175
	Int.*	200	200	200	200	200	200	200	200	200
	Peak**	225	225	225	225	225	225	225	225	225
Min. Speed [RPM]		10	10	10	10	10	10	10	10	10

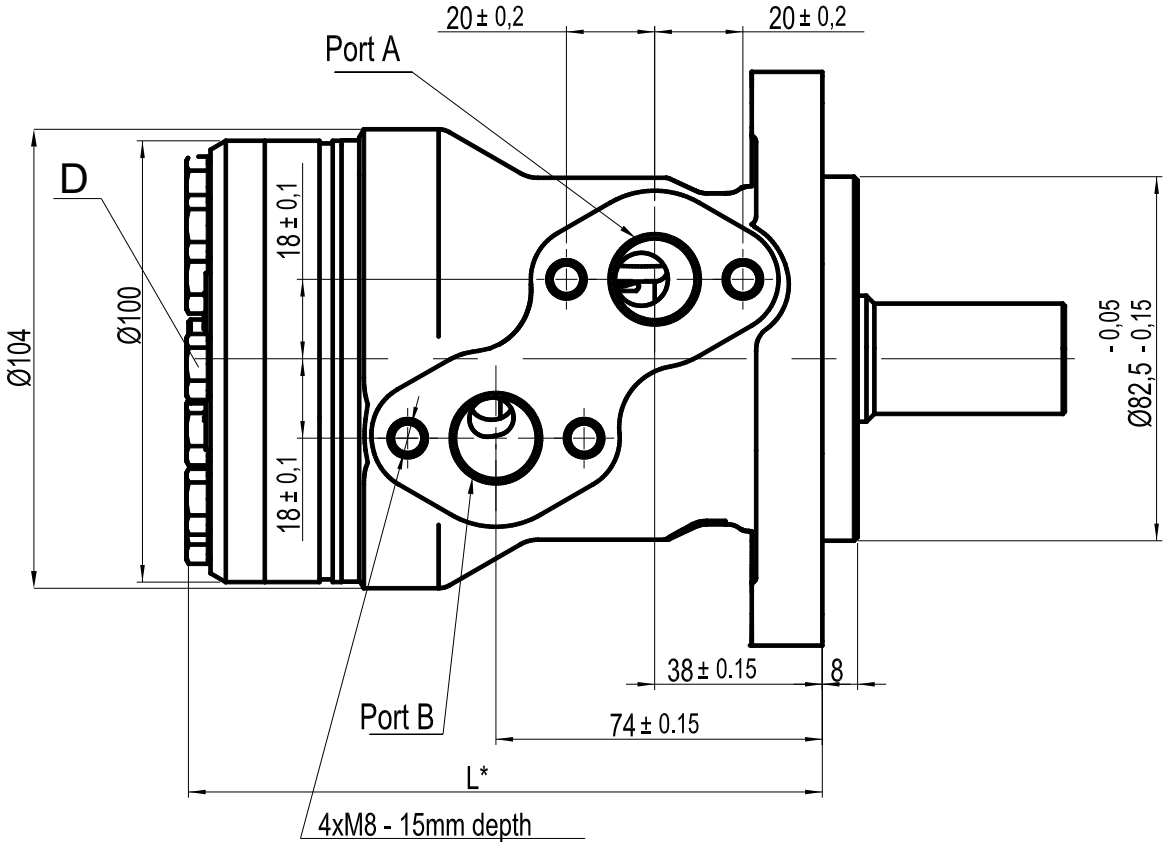
* Intermittent duty must not exceed 10% of every minute
** Peak duty must not exceed 1% of every minute



MOUNTING



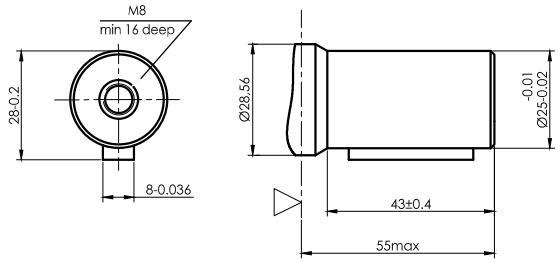
Type	L* [mm]	Weigh [Kg]
MHLR 50 …	135	7
MHLR 80 …	140	7,3
MHLR 100 …	143	7,5
MHLR 125 …	148	7,7
MHLR 160 …	154	8
MHLR 200 …	161	8,4
MHLR 250 …	170	8,8
MHLR 315 …	181	9,4
MHLR 400 …	195	10



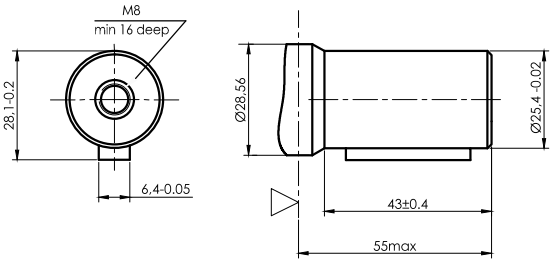
Port(A,B): 2xG1/2 or 2xM22x1,5 - 15mm depth
Port(D):G1/4 or M14x1,5 -12mm

SHAFTS

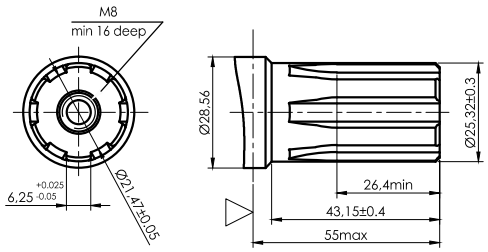
S - Parallel key A8x7x32 DIN 6885
Max. torque 34daNm



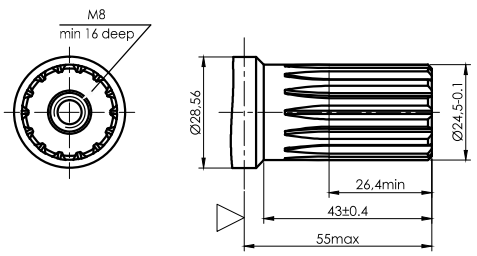
SC - Parallel key ¼" x¼" x 1¼" BS46
Max. torque 34daNm



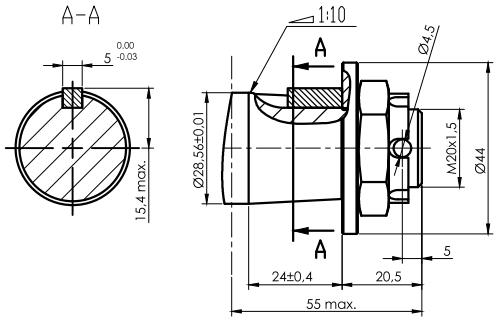
SB - Splined, BS 2059, Deep splines 1', Fit 2
Max. torque 40daNm



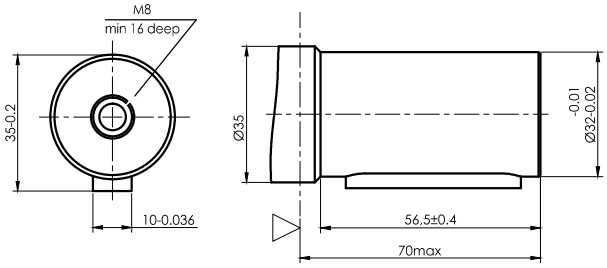
SE - Splined DIN 5482, B25x22 h9
Max. torque 40daNm



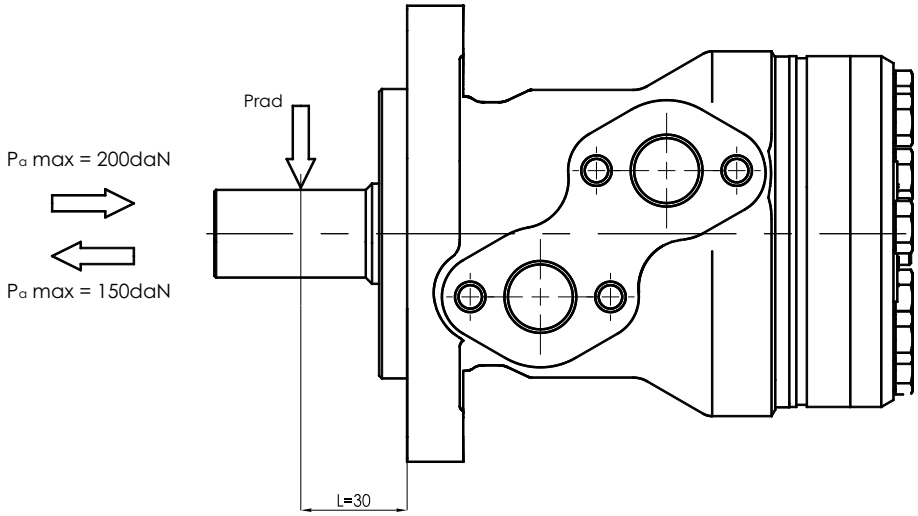
SK - Tapered 1:10, Parallel key B5x5x14 DIN 6885
Max. torque 40daNm

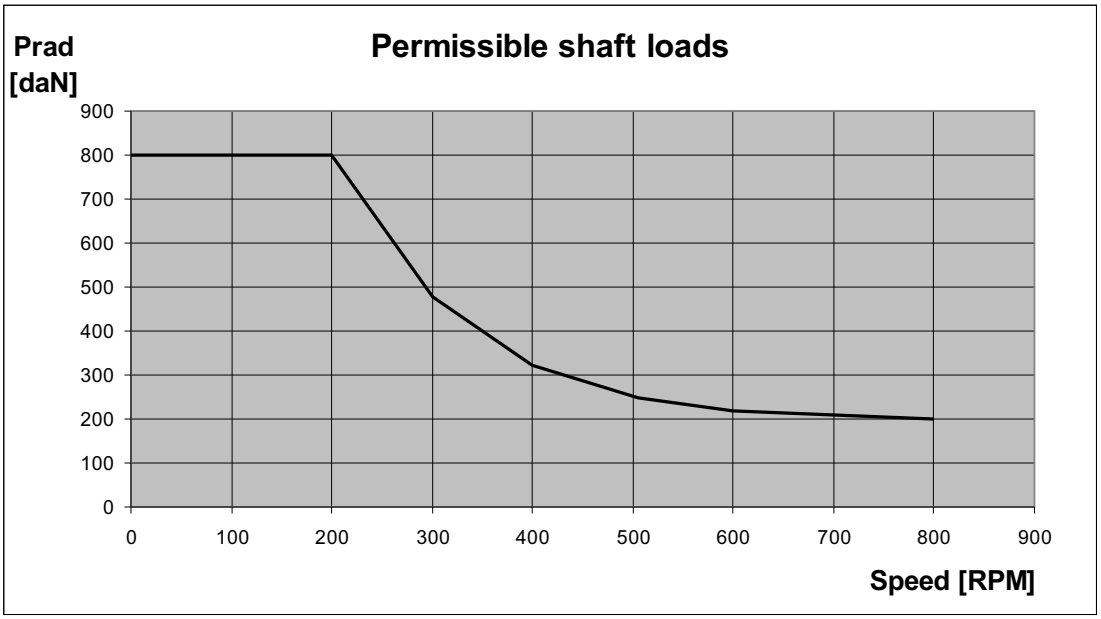


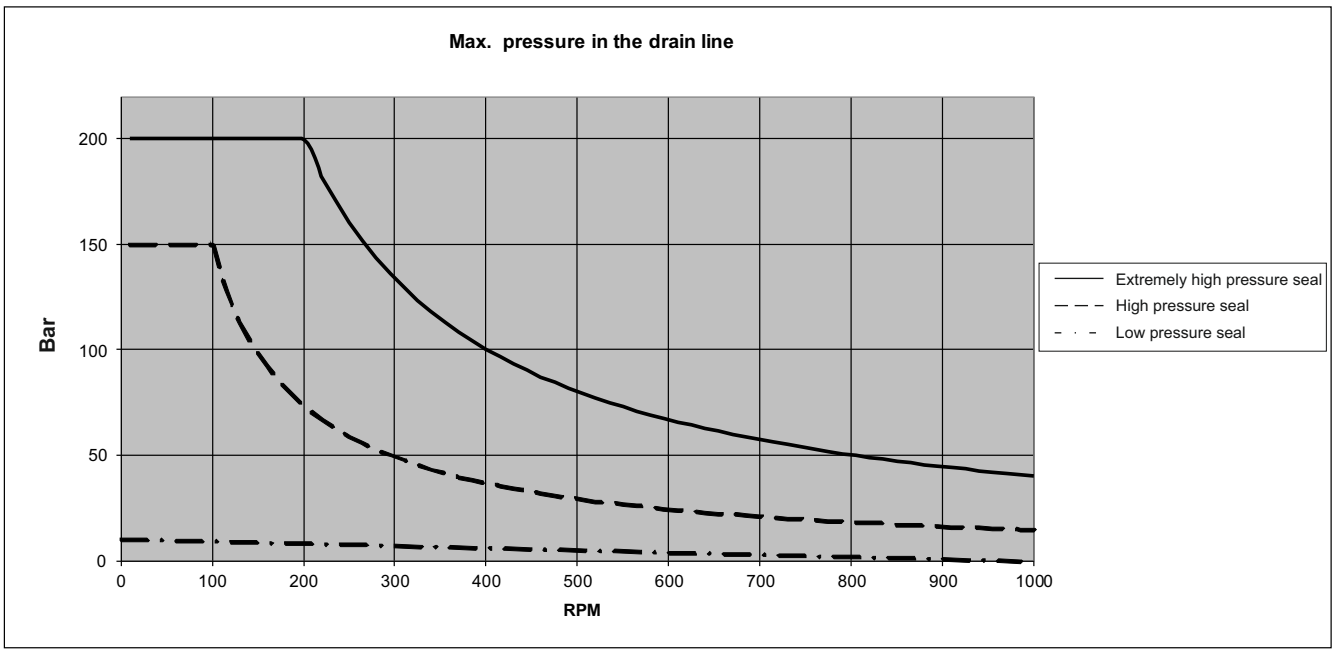
B - Parallel key A10x8x45 DIN 6885
Max. torque 77daNm



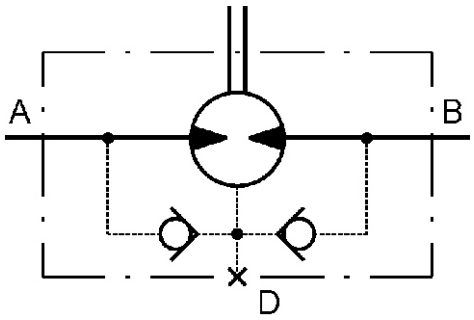
TECHNICAL DATA



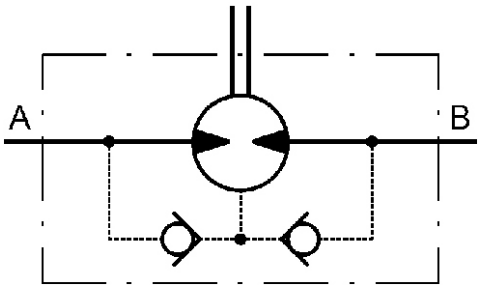




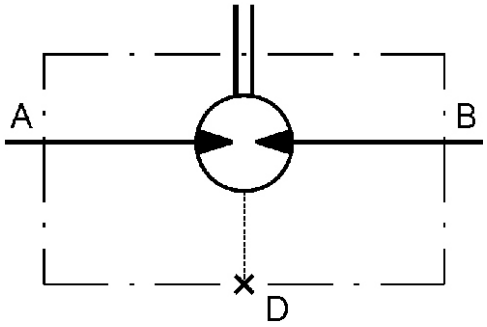
The motors can be made with or without check valves. If drain pressure exceed the rate of figure, the drain line must be connected.
An option with a seal for low pressure can be chosen if the drain port is connected or the motor operates separately or in parallel circuit.
An option with a seal for high pressure or extremely high pressure should be chosen in case the motor operates in series connection and the drain port is not connected.
In any case, the connection of the drain port is recommended for prolonging the validity term of the shaft seal.



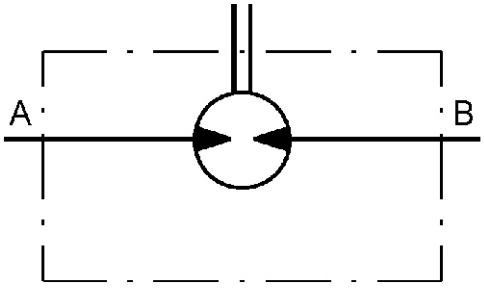
..MHLR...12, motors with low pressure seal and high pressure seal.
The shaft seal pressure equals the pressure in the drain line.



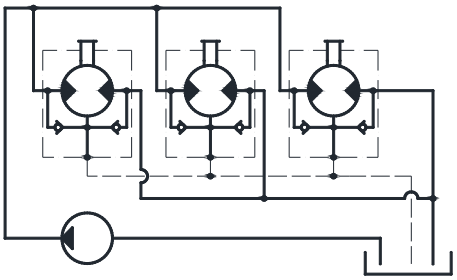
..MHLR...1, motors with low pressure seal and high pressure seal.
The shaft seal pressure never exceeds the pressure in the return line.



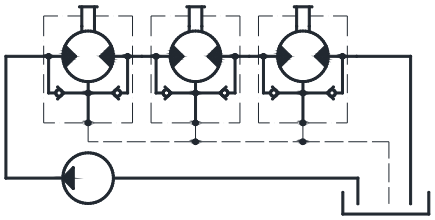
..MHLR...2, motors with extremely high pressure seal.
The shaft seal pressure equals the pressure in the drain line.



..MHLR..., motors with extremely high pressure seal.
The shaft seal pressure equals the average of input pressure and return pressure.



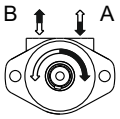
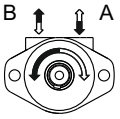
Parallel connection



Series connection

ORDERING CODE

MHLR

1MHLR	2MHLR
Standard Rotation	Reverse Rotation
	

CODE	Displacement cm^3/rev
50	49.7
80	79.2
100	101.2
125	122.8
160	159.3
200	200.8
250	249.7
315	314.6
400	398

CODE	Check valves
1	with
omit	without

CODE	Drain port
2	with
omit	without

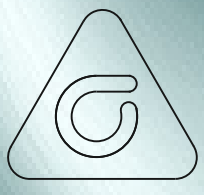
CODE	Ports
G	G1/2"
M	M22x1,5

CODE	Shaft seal
omit	Low pressure or for “B” shaft
H	High pressure
Y	Extremely high pressure

CODE	Shafts
S	Ø25mm straight, Parallel key A8x7x32 DIN6885
SC	Ø25,4mm straight, Parallel key 1/4"x1/4"x11/4" BS46
SB	Ø25,32mm Splined, BS2059
SE	Ø24,5mm Splined B25x22 h9, BS5482
SK	Ø28,56mm Tapered 1:10, Parallel key B5x5x14 DIN6885
B	Ø32mm straight, Parallel key A10x8x45 DIN6885

CODE	Special features
T	Painted(standard color RAL9005)*
TC3	Painted, class C3-DIN EN ISO12944 (standard color RAL9005)*
SP	Speed sensor

* Colour at customer’s request.



caproni

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