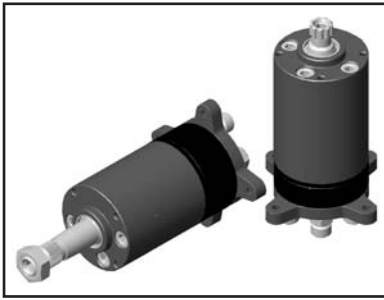


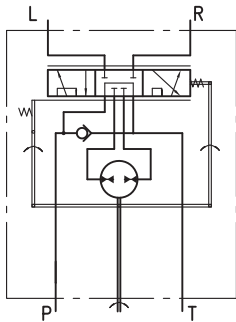
HYDROSTATIC STEERING UNITS TYPE HKUM.../4(PB)



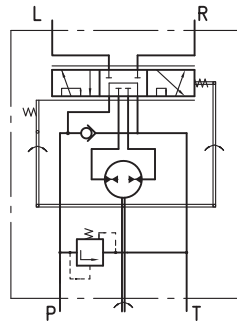
M+S Hydraulic expands its range of hydrostatic steering units with mini steering units, which are used in lawn and garden machines, minitractors and municipal vehicles.

HKUM.../4 is open centre steering units in neutral position have open connection between pump and tank.

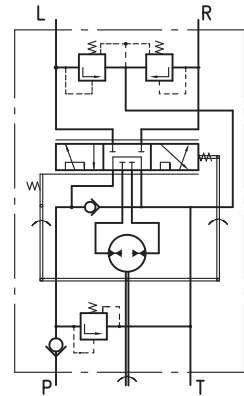
HKUM.../4PB works as standard steering unit with auxiliary port designed for flow providing additional vehicles functions. When the steering wheel is not turned, the flow will be delivered to port PB. After the steering wheel has been turned a part of the flow will be deviated to the steering unit and the flow through port PB will be inconstant.



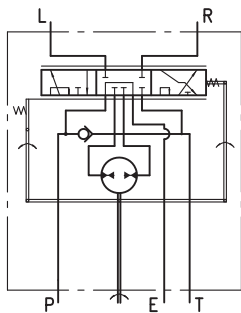
"Open Center - Non Load Reaction"
HKUM.../4



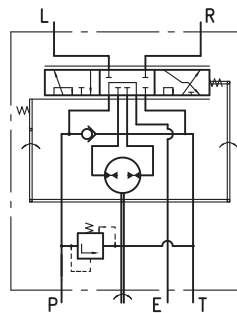
"Open Center - Non Load Reaction"
HKUMR.../4



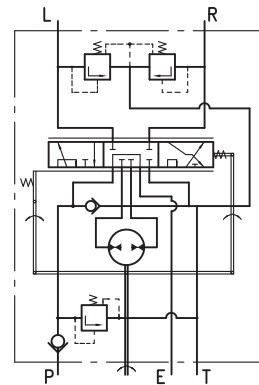
"Open Center - Non Load Reaction"
HKUMS.../4



"Open Center - Non Load Reaction"
HKUM.../4PB - Power Beyond



"Open Center - Non Load Reaction"
HKUMR.../4PB - Power Beyond



"Open Center - Non Load Reaction"
HKUMS.../4PB - Power Beyond

SPECIFICATION DATA

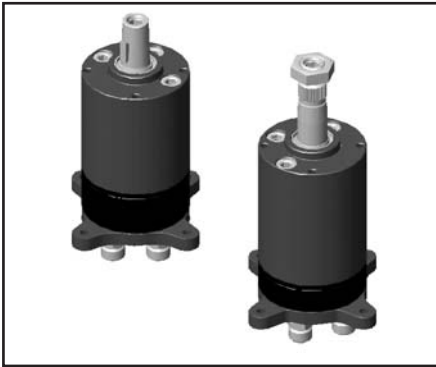
Parameters	Type							
	HKUM... 32/4(PB)	HKUM... 40/4(PB)	HKUM... 50/4(PB)	HKUM... 63/4(PB)	HKUM... 70/4(PB)	HKUM... 80/4(PB)	HKUM... 100/4(PB)	
Displacement	cm ³ /rev [in ³ /rev]	31,8 [1.94]	40 [2.44]	50 [3.05]	63 [3.84]	70 [4.27]	80 [4.88]	100 [6.10]
Rated Flow*	lpm [GPM]	3,2 [0.85]	4,0 [1.06]	5,0 [1.32]	6,0 [1.59]	7,0 [1.85]	8,0 [2.11]	10,0 [2.64]
Max. recommended oil flow	lpm [GPM]	20 [5.3]						
Rated Pressure	bar [PSI]	125 [1810]						
Relief Valve Pressure Settings**	bar [PSI]	60 [870]	70 [1015]	80 [1160]	90 [1305]	100 [1450]	110 [1595]	125 [1810]
Shock Valves Pressure Settings***	bar [PSI]	120 [1740]	130 [1885]	140 [2030]	150 [2175]	160 [2320]	170 [2465]	185 [2683]
Max. Cont. Pressure in Line T	bar [PSI]	20 [290]						
Max. Torque at Servoamplifying	Nm [lb-in]	2,0 [17.7]						
Max. Torque w/o Servoamplifying	Nm [lb-in]	80 [708]						
Weight, kg [lb]	for HKUM.../4...	2,3 [5.1]	2,4 [5.3]	2,5 [5.5]	2,6 [5.7]	2,65 [5.84]	2,7 [5.95]	2,9 [6.39]
	for HKUM.../4(PB)...	2,6 [5.7]	2,7 [5.9]	2,8 [6.2]	2,9 [6.4]	2,95 [6.5]	3,0 [6.6]	3,2 [7.1]

* Rated Flow at 100 RPM.

** Pressure Settings are at flow rate of 12 l/min [3.17 GPM] and viscosity 21 mm²/s [105 SUS] at 50°C [120°F].

*** Pressure Settings are at flow rate of 1 l/min [0.26 GPM] and viscosity 21 mm²/s [105 SUS] at 50°C [120°F].

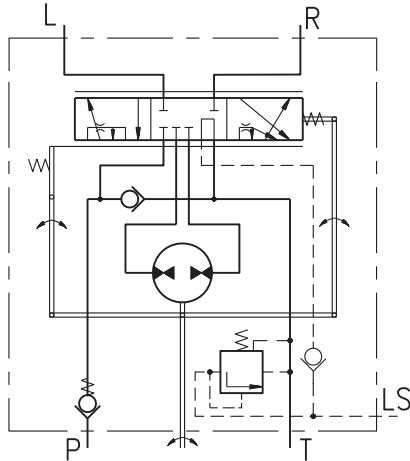
HYDROSTATIC STEERING UNITS TYPE HKUM.../5DT



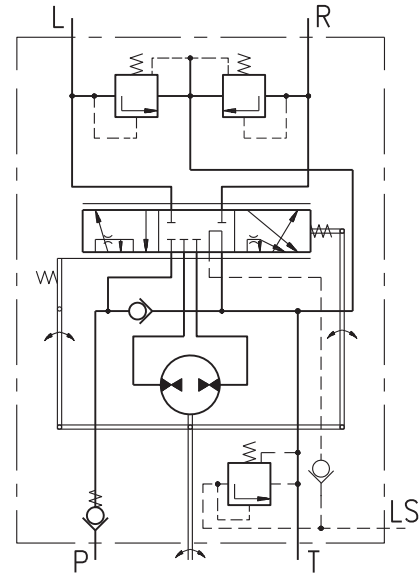
HKUM.../5DT is a steering unit with load sensing dynamic signal and integrated valve functions.

HKUM.../5DT works in a system with a dynamic priority valve and it is appropriate for machines with increased energy saving requirements.

The flow to LS-line allows easy and smooth control when starting steering.



"Closed Center - Non Reaction"
HKUMR.../5DT



"Closed Center - Non Reaction"
HKUMS.../5DT

SPECIFICATION DATA

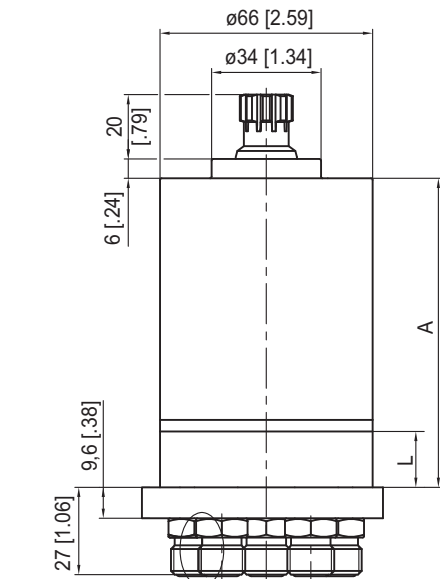
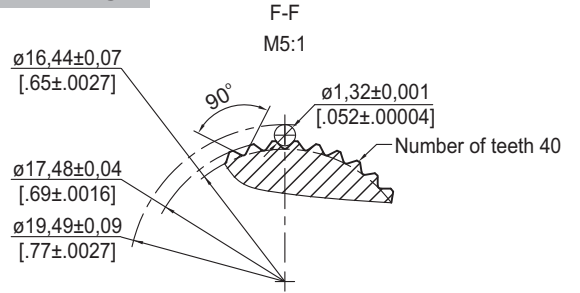
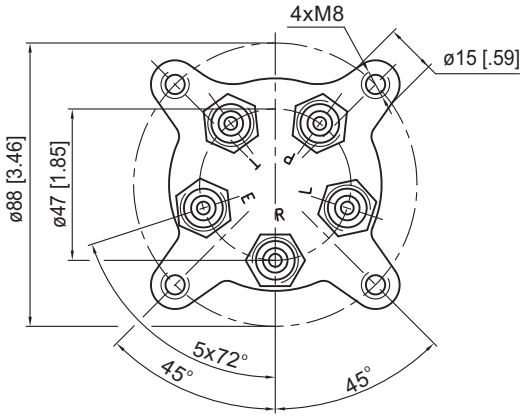
Parameters	Type							
	HKUM... 32/5DT	HKUM... 40/5DT	HKUM... 50/5DT	HKUM... 63/5DT	HKUM... 70/5DT	HKUM... 80/5DT	HKUM... 100/5DT	
Displacement	cm ³ /rev [in ³ /rev]	31,8 [1.94]	40 [2.44]	50 [3.05]	63 [3.84]	70 [4.27]	80 [4.88]	100 [6.10]
Rated Flow*	lpm [GPM]	3,2 [.85]	4,0 [1.06]	5,0 [1.32]	6,0 [1.59]	7,0 [1.85]	8,0 [2.11]	10,0 [2.64]
Rated Pressure	bar [PSI]	125 [1810]						
LS-Valve Pressure**		60	70	80	90	100	110	125
Settings	bar [PSI]	[870]	[1015]	[1160]	[1305]	[1450]	[1595]	[1810]
Shock Valves Pressure***		120	130	140	150	160	170	185
Settings	bar [PSI]	[1740]	[1885]	[2030]	[2175]	[2320]	[2465]	[2683]
Max. Cont. Pressure in Line T	bar [PSI]	20 [290]						
Max. Torque at Servoamplifying	Nm [lb-in]	2,0 [17.7]						
Max. Torque w/o Servoamplifying	Nm [lb-in]	80 [708]						
Weight	kg [lb]	2,6 [5.7]	2,7 [5.95]	2,8 [6.2]	2,9 [6.39]	2,95 [6.5]	3 [6.6]	3,2 [7.05]

* Rated Flow at 100 RPM.

** The pilot pressure relief valve is set at an oil flow to the priority valve of 12 l/min [3.17GPM]

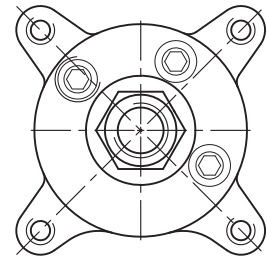
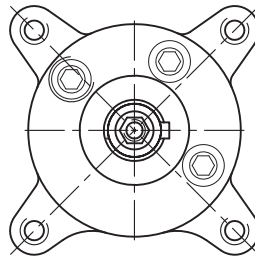
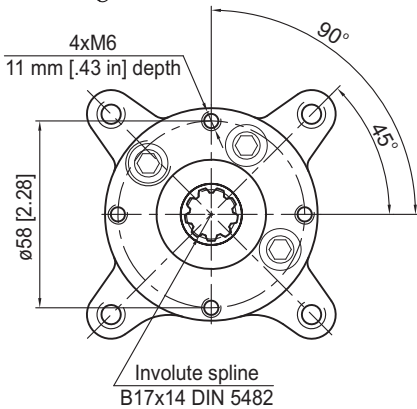
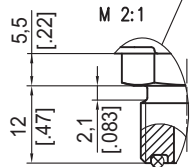
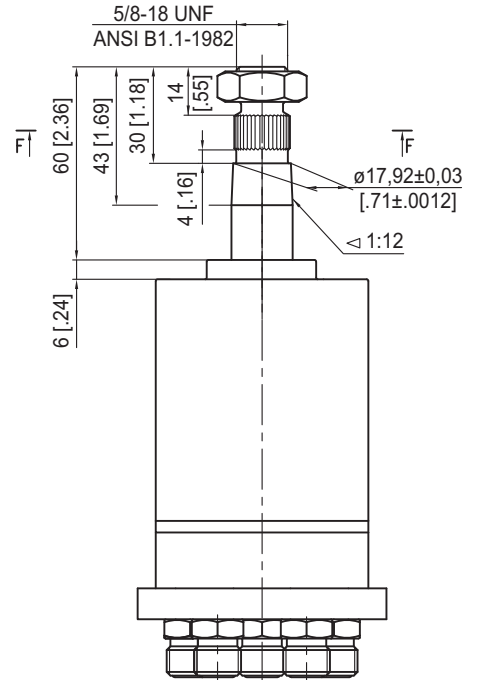
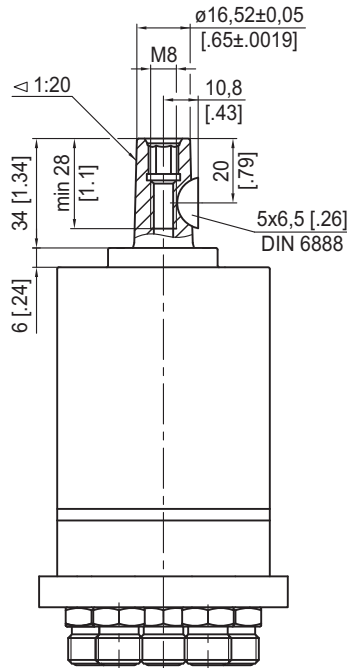
*** Pressure Settings are at flow rate of 1 l/min [.26 GPM] and viscosity 21 mm²/s [105 SUS] at 50°C [120°F].

OUTLINE DIMENSIONS REFERENCE



Shaft type "K1"

Shaft type "K2"



Code	Ports - P, T, R, L, E Thread
	A 9/16-18 UNF (ORFS)

Type	A, mm [in]	Type	A, mm [in]	L, mm [in]
HKUM 32/4	90 [3.54]	HKUM 32/4PB(5DT)	103 [4.06]	11,0 [.43]
HKUM 40/4	93 [3.66]	HKUM 40/4PB(5DT)	106 [4.17]	13,7 [.54]
HKUM 50/4	96 [3.78]	HKUM 50/4PB(5DT)	109 [4.29]	17,1 [.67]
HKUM 63/4	100 [3.94]	HKUM 63/4PB(5DT)	113 [4.45]	21,6 [.85]
HKUM 70/4	103 [4.06]	HKUM 70/4PB(5DT)	116 [4.57]	24,0 [.94]
HKUM 80/4	106 [4.17]	HKUM 80/4PB(5DT)	119 [4.69]	27,4 [1.08]
HKUM 100/4	113 [4.45]	HKUM 100/4PB(5DT)	126 [4.96]	34,2 [1.35]

ORDER CODE for HKUM.../4(PB)...

	1	2	3	4	5	6	7	8
HKUM			/		-		-	

Pos.1 - Option

	Relief Valve	Check Valve in P-port	Shock Valve
omit	no build-in valves		
R	•		
S	•	•	•

Pos.2 - Displacement code

32	- 31,8 cm ³ /rev [1.94 in ³ /rev]
40	- 40,0 cm ³ /rev [2.44 in ³ /rev]
50	- 50,0 cm ³ /rev [3.05 in ³ /rev]
63	- 63,0 cm ³ /rev [3.84 in ³ /rev]
70	- 70,0 cm ³ /rev [4.27 in ³ /rev]
80	- 80,0 cm ³ /rev [4.88 in ³ /rev]
100	- 100,0 cm ³ /rev [6.10 in ³ /rev]

Pos.3 - Versions

4	- "Open Center - Non Load Reaction"
4PB	- "Open Center - Non Load Reaction" with 5 ports (Power Beyond)

Pos.4 - Relief Valve Pressure Settings* [bar]

60	70	80	90	100	110	125
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Pos.5 - Shaft Versions

omit	- Splined B17x14 DIN 5482
K1	- Tapered 1:20, key 5x6,5 DIN 6888
K2	- Tapered 1:12, with 11/16 in-40 serrations

Pos.6 - Ports

A	- ORFS main ports - ISO 8434-3
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Pos.7 - Option (Paint)**

omit	- no Paint
P	- Painted
PC	- Corrosion Protected Paint

Pos.8 - Design Series

omit	- Factory specified
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Notes: * For HKUMR... and HKUMS... only.
** Colour at customer's request.
The steering units are mangano-phosphatized as standard.

ORDER CODE for HKUM.../5DT

	1	2	3	4	5	6	7	8	9
HKUM			/	5D	T		-		-

Pos.1 - Option

	Relief Valve	Check Valve in P-port	Shock Valve
R	•	•	
S	•	•	•

Pos.2 - Displacement code

32	- 31,8 cm ³ /rev [1.94 in ³ /rev]
40	- 40,0 cm ³ /rev [2.44 in ³ /rev]
50	- 50,0 cm ³ /rev [3.05 in ³ /rev]
63	- 63,0 cm ³ /rev [3.84 in ³ /rev]
70	- 70,0 cm ³ /rev [4.27 in ³ /rev]
80	- 80,0 cm ³ /rev [4.88 in ³ /rev]
100	- 100,0 cm ³ /rev [6.10 in ³ /rev]

Pos.3 - Versions

5D	- Version 5 "Close Center - Non Load Reaction and Dynamic Load Signal"
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Pos.4 - Priority Valve Connection

T	- Pipe Mounting
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Pos.5 - Relief Valve Pressure Settings [bar]

60	70	80	90	100	110	125
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Pos.6 - Shaft Versions

omit	- Splined B17x14 DIN 5482
K1	- Tapered 1:20, key 5x6,5 DIN 6888
K2	- Tapered 1:12, with 11/16 in-40 serrations

Pos.7 - Ports

A	- ORFS main ports - ISO 8434-3
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Pos.8 - Option (Paint)*

omit	- no Paint
P	- Painted
PC	- Corrosion Protected Paint

Pos.9 - Design Series

omit	- Factory specified
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Notes: * Colour at customer's request.
The steering units are mangano-phosphatized as standard.