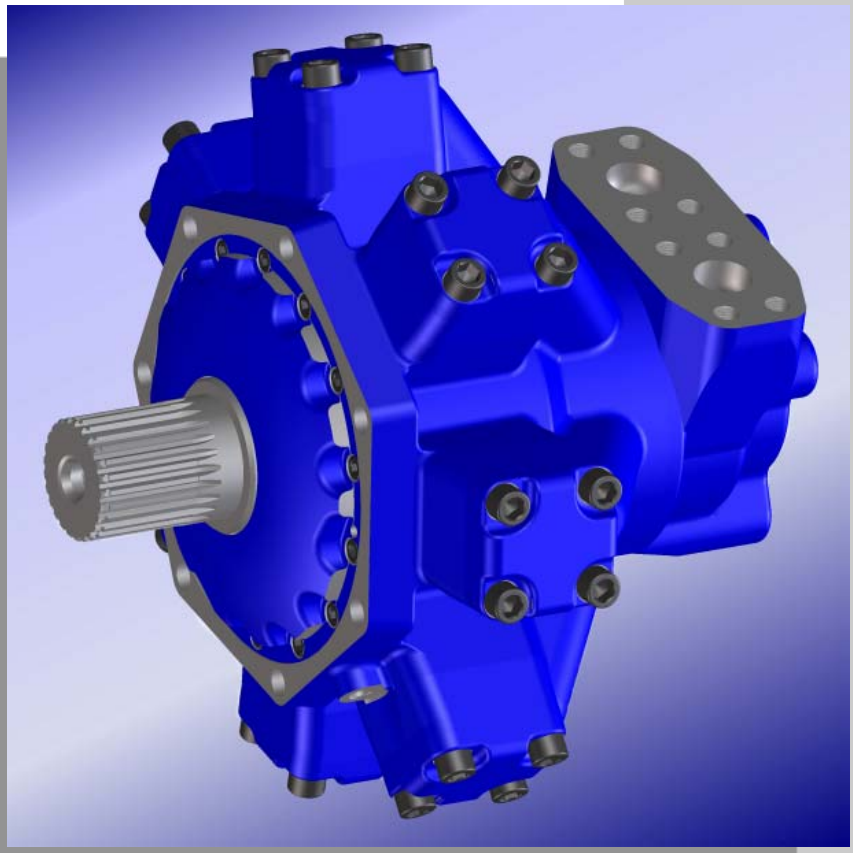
HYDRAULIC-MOTORS



Axial-Piston-Motors
Radial-Piston-Motors
with fixed displacement
Dual displacement motors
Hydraulic brake motors
Hydraulic geared motors
System unit motors

Cat. No.HM1-002E
Edition 2004.10/02

DÜSTERLOH Fluidtechnik

Radial piston motors

Flange
ISO 3019/2

KM 110ZAF

Flange
ISO 3019/3

RM 250NZA

Flange
ISO 3019/3

RM 450XKA1

Examine the following features of our motors:

- long life through well-proven design
- shaft end can be subjected to high radial and axial forces
- only very few moving parts in the rotating group
- extremely low moment of inertia
- instrument shaft may be fitted
- low leakage-built in wear compensation
- high resistance to temperature shock
- suitable for use with fire resistant fluids
- low noise level
- low maintenance
- high speed range
- small ports are B.S.P. type G threads according to ISO 22811
- full torque available over complete speed range
- uniform running properties at low speeds
- immediately reversible
- high starting torque
- no counterpressure necessary when operated as a motor
- suitable for use as pumps with boosted system
- eminently suitable for control systems
- control of feed and discharge possible
- may be operated in parallel
- total efficiency up to 96%
- direct valve assembly possible
- SAE Flange connection 6000 psi J518 1", 1¼", 1½"

Hydraulic motors (with fixed displacement)

Hydraulic motor type		displace-ment	torque		speed range		continuous-pressure	interm.-pressure	peak-pressure	power	
			average spec.	max.	$n_{min.}$*	$n_{max.}$	p_{cont}	p_{interm}	p_{peak}	P_{cont}	P_{interm}
Axialpiston	Radialpiston	cm/rev	Nm/bar	Nm	rpm	rpm	bar	bar	bar	kW	kW
AE 10		11,4	0,16	39,1	10	3000	210	250	315	7,7	9,2
AE 16		16,0	0,22	54,8	5	2500	210	250	315	8,1	9,6
AE 22		22,5	0,31	77,0	10	2000	210	250	315	9,0	11
AE 32		31,5	0,43	108	5	2000	210	250	315	12,5	15
AE 40		40,5	0,56	139	3	2000	210	250	315	16	19
	KM 11	11,1	0,15	31,6	10	3000	140	210	250	3,5	4,3
	RM 11	11,1	0,15	37,7	5	3600	160	250	315	4,7	6,0
	KM 22	22,0	0,31	77,9	10	2250	160	250	315	6,0	7,5
	KM 32	33,0	0,47	118	10	1500	160	250	315	6,0	7,5
	KM 45	44,0	0,62	156	5	1800	160	250	315	9,5	11
	KM 63	66,0	0,95	236	5	1200	160	250	315	9,5	11
	KM 90	88,4	1,27	267	5	900	140	210	250	8,5	10
	KM 110	110	1,59	333	5	750	140	210	250	8,5	10
	RM 80N	80,4	1,15	363	5	800	250	315	400	12	15
	RM 125N	126	1,80	567	5	600	200	315	350	12	15
	RM 160N	161	2,36	742	5	800	250	315	400	24	30
	RM 250N	251	3,68	1159	5	600	200	315	350	24	30
	RM 250X	255	3,74	1177	5	600	250	315	400	28	35
	RM 355X	359	5,26	1657	5	550	250	315	400	36	45
	RM 450X	442	6,47	2038	5	500	250	315	400	40	50
	RM 500X	491	7,19	2264	5	450	250	315	400	40	50
	RM 710X	704	10,3	3249	5	500	250	315	400	63	80
	RM 900X	904	13,2	4170	5	450	250	315	400	63	80
	RM 1250X	1266	18,5	5837	5	540	250	315	400	125	150
	RM 2000X	2011	29,4	9274	5	350	250	315	400	130	160
	RM 3150X	3167	46,4	14606	3	250	250	315	400	145	180
	RM 5000X	5278	77,3	24343	2	150	250	315	400	150	190

* Lower speed down to 1 r.p.m. can be achieved with additional servo valve control.

$p_{cont.}$ continuous pressure under the condition that average power is less then power cont.

$p_{max.}$ max. working pressure when keeping to P_{cont} counted on a running time of max. 10% for one hour duty time

p_{peak} short peak pressure at which components still function safely

$P_{cont.}$ max. con. output power at max. reverse pressure up to 10 bar. Flushing should be considered for higher performance

$P_{intermit.}$ output power over a short time (running time of max. 10% for one hour duty time)

Hydraulic motors (dual displacement)										
Type	Displacement		Speed range		Torque		$Power_{cont}$		$Power_{intermit.}$	
			at	at	at	at	at	at	at	at
	$V_{g\ max}$	$V_{g\ min}$	$V_{g\ max}$	$V_{g\ min}$	$V_{g\ max}$	$V_{g\ min}$	$V_{g\ max}$	$V_{g\ min}$	$V_{g\ max}$	$V_{g\ min}$
	cc/rev	cc/rev	rpm	rpm	Nm/bar	Nm/bar	kW	kW	kW	kW
RM 750 - 250X	748	249	5-450	10-600	11,1	3,6	70	22	90	28
RM 1000 - 355X	1047	349	5-500	10-600	15,3	5,1	80	27	100	30
RM 1400 - 140X	1433	143	5-350	10-500	21,0	2,0	80	10	100	15
RM 1800 - 600X	1800	598	5-300	10-450	26,3	8,7	100	33	130	43
RM 3000 - 1000X	2928	999	5-220	10-350	42,8	14,6	115	39	150	51
RM 4500 - 2250X	4442	2221	5-140	10-280	65,1	32,5	120	60	160	80

The dual displacement motors switch over under torque. Direct valve assembly possible.

$Pressure_{cont.}$ 210 bar continuous pressure under the condition that average power is less than $power_{cont}$

$Pressure_{max}$ 250 bar max. working pressure when keeping to P_{cont} counted on a running time of max. 10% for one hour duty time

$Pressure_{peak}$ 300 bar short peak pressure at which components still function safely

$Power_{cont}$ max. cont. output power at max. reverse pressure up to 10 bar. Flushing should be considered for higher performance

$Power_{intermit.}$ output power over a short time (running time of max. 10% for one hour duty time)

Hydraulic brake motors with spring operated multiple disc brakes

RM 900XKA1 - LBD 901Z

KM 32ZA - LBD 11Z

Hydraulic brake motors of this design consist of radial piston motors linked to spring operated multiple disc brakes.

In order to open the disc brake the control pressure should be fed via a 2/3 way valve to the control line connection G 1/4.
To reach the maximum braking moment in the stop function, the control pressure must be passed without pressure via the 2/3 way valve and a separate line to the tank. The braking moments given apply only to pressureless control line connection, and in the case of pressure increase in the control line connection are interrupted according to the spring characteristics as soon as the control pressure is reached.

Hydraulic brake motors with a cylindrical drive shaft and feather key according to DIN 6885, female involute splined shaft, or male involute splined drive shaft according to DIN 5480 can be supplied on request.

The drawing of shaft and flange of the brake motors are identical with the radial piston motors. So it is possible to change the motors.

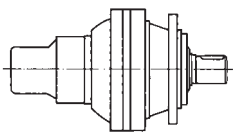
Hydraulic geared motors

Coaxial geared motor

Hydraulic geared motors of this range consist of radial piston motors linked to a single or two stage coaxial or angular gearbox with or without spring disc brake.
Coaxial hydraulic geared motors offer high torque and small r.p.m. in small dimensions. They are reversible and can be used for universal application.
Angular gearboxes are often used for mobile drive because of short length and free space. Various models for multiple applications avaiable.

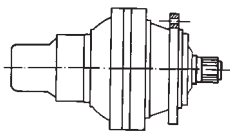
Angular geared motor

Type: Z



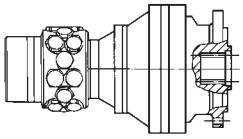
Keywayed shaft with
parallel key acc. to DIN 6885

Type: K



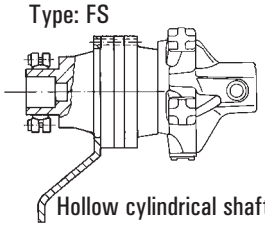
male involute splined shaft
acc. to DIN 5480/5482

Type: H



female involute splined shaft
acc. to DIN 5480/5482

Type: FS



Hollow cylindrical shaft
with torque arm and shrink disc

System units Radial piston motors with or without spring disc brakes and direct valve assembly for control and regulation.

Duesterloh system units consist of radial piston motors (displacement = 11 to 110 cc/rev) with or without spring disc brakes and have directly flanged proportional-, servo- or any other type valves. Their compactness and the small volume of oil are ideal for control and regulation purposes.
Interlinked blocks of various design allow the mounting of all NG6 and NG10 (Cetop 3 and 5) valves according to DIN 24340. For larger drives (displacement = 125 to 5000 cc/rev) valves of larger size are mounted directly on the radial piston motors (with corresponding adapterplates).

Flow divider Radial piston motors in composite construction to devide the flow into equal parts.

The DUESTERLOH flow dividers consist of 2 or more radial piston motors directly mechanically coupled or via dividing gearbox. The small leakage of the radial piston motors guarantees high precision.
Motors can be coupled to achieve a 1:1 or any other dividing ratio. Primary and secondary sides must be protected against increase in pressure.

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