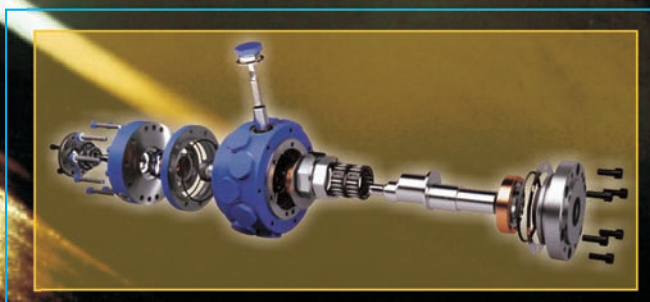
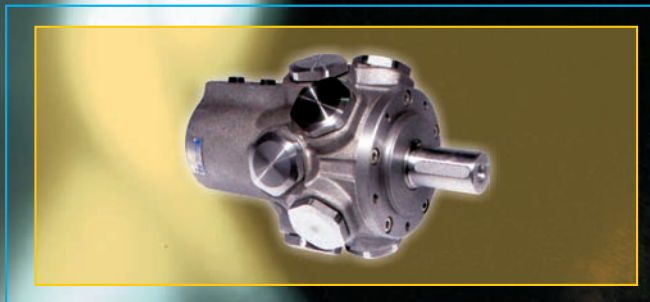


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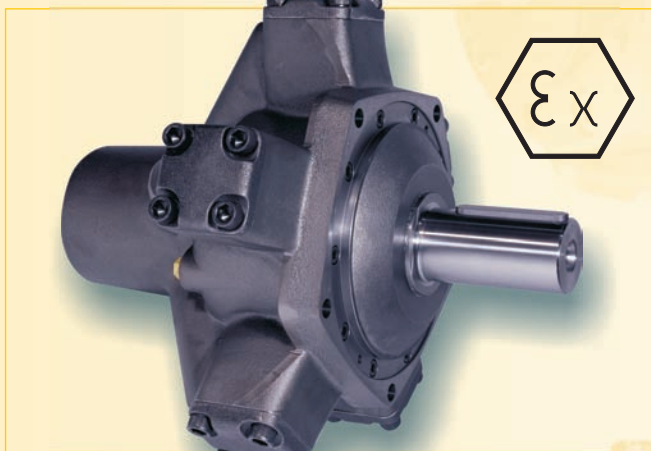
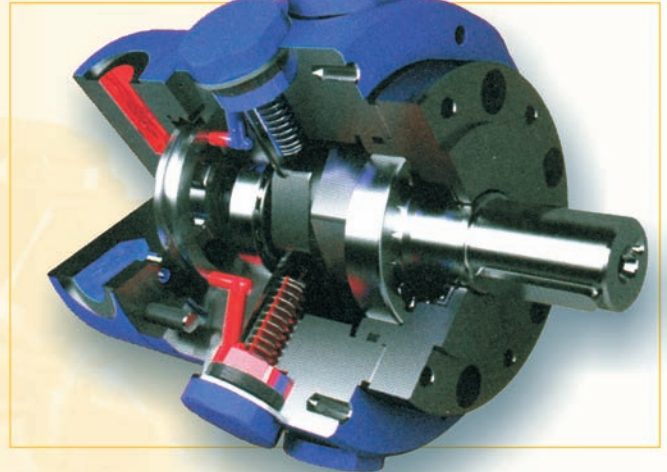


hydraulic motors

quality products for mechanical & fluid power

[www.jbj.co.uk/hydraulicmotors.html](http://www.jbj.co.uk/hydraulicmotors.html)





## Explosion protected »

with fixed and with adjustable displacement according to Directive 94/9/EC. ATEX

## Many types of drives can fulfil the elementary function of driving a machine but . . .

Düsterloh hydraulic motors have lots of additional features and characteristics which other types of drives cannot match. This is why Düsterloh hydraulic motors are the first choice for solving a wide variety of complex drive problems.

Düsterloh hydraulic motors have a high starting torque. This is required for instance, for safe operation of the heavy gates on the material lock in a nuclear power plant or to hand over the weighty coils in a rolling mill.

Due to the low amount of revolving mass, the rotational direction can be quickly changed in Düsterloh hydraulic motors. This feature is very important in many test benches; when performing vibration tests on motorcycle forks or when testing the adjustment of wing flaps on aircrafts. The components can perform up to 50 rotational direction changes per second.

An exact adherence to the specified rotational speed profile is of essential importance for many fields of application of hydraulic motors. Düsterloh now presents a new generation of motors, for which a significantly improved constancy of rotational speed was achieved compared to conventional motors.

## Hydraulic Motors »

- » High power density - high power level considering the relatively small size.  
Axial piston motors are used in restricted space of precision cylindrical forgery machines to control the working hub on forgery tools. The strongest RM5000 radial piston motor can move weights of 100 tonnes in steelworks transport carts.
- » Jerk-free start up.  
Ideal in the operation of fire engine turntable ladders or fork-lift trucks which need to position heavy loads safely and quickly, often at extreme lifting heights.
- » Low operating noise of these hydraulic motors make them particularly suitable for stagecraft in theatres and opera houses
- » High axial and radial forces on the shaft permissible due to the very compact construction of these hydraulic motors combined with suitable roller bearings. For instance as a drive for screw pumps for highly viscose media.
- » High resistance to environmental influences makes these hydraulic motors ideal for rolling mills producing rolled steel bands, driven under temperatures of up to 90°C or the level control of offshore drilling platforms which are washed by salt water breakers.
- » The excellent control of speed and torque makes these hydraulic motors ideal for rewinder mechanisms in film blowing machines where freshly blown film must be spooled with constant traction so that the film does not rip and the thickness of the file remains constant.



## AE series »

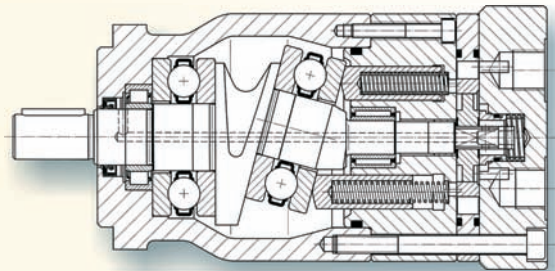
### Axial piston motors »

Type AE3 - AE45

displacement	3 - 45 cm <sup>3</sup> /rev
operating pressure	210 bar
speed	up to 3000 rpm
torque	34 - 134 Nm



Axial piston motor	Displacement (cm <sup>3</sup> /U)	Torque (Nm)	Speed (1/min)	Pressure (bar)	Power (kW)
AE 3	2.86	8.6	5250	210	3.2
AE 4	4.00	12.0	3750	210	3.2
AE 5	5.14	15.5	3000	210	3.2
AE 10	11.40	34.0	3000	210	7.7
AE 16	16.00	48.0	2500	210	8.1
AE 21	21.30	64.0	2400	210	10.3
AE 22	22.50	67.0	2000	210	9.0
AE 32	31.50	95.0	2000	210	12.5
AE 40	40.50	122.0	2000	210	16.0
AE 45	45.00	135.0	2000	210	18.0

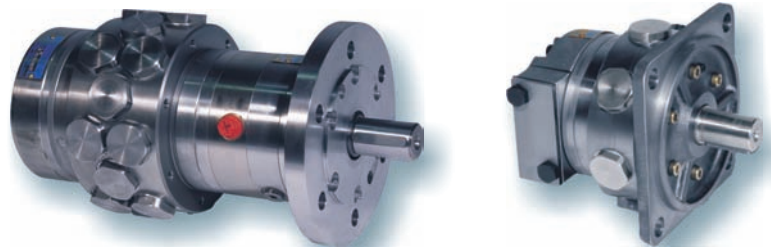


## KM series » available in a new High Precision version. Use as standard for stable speeds significantly less than 1rpm.

### Radial piston motors »

Type KM11 - KM110

displacement	11 - 110 cm <sup>3</sup> /rev
operating pressure	140/160 bar
speed	up to 3600 rpm
torque	21 - 222 Nm



- » Also available with servo regulation to give the ultimate in low speed performance.
- » Precision drives ideally suited to test rig applications where accurate speed regulation is critical.

Radial piston motor	Displacement (cm <sup>3</sup> /U)	Torque (Nm)	Speed (1/min)	Pressure (bar)	Power (kW)
KM 11	11	21	3000	140	3.5
RM 11	11	24	3600	160	4.7
KM 22	22	50	2250	160	6.0
KM 32	33	76	1500	160	6.0
KM 45	44	100	1800	160	9.5
KM 63	66	151	1200	160	9.5
KM 90	88	178	900	140	8.5
KM 110	110	222	750	140	8.5

Design modifications in the flow control inside the motor as well as in the arrangement of the pistons have led to significant improvement of the constancy of the rotational speed. In addition, the speed range was clearly extended downwards. For the standard motor which is already precise in competitive comparison, the ability to run is ensured for a minimum speed of 5 min<sup>-1</sup>. The high precision motor can achieve speeds of significantly less than 1min<sup>-1</sup> with already good constancy of speed in unregulated operation. The maximum speed is still up to 2000 min<sup>-1</sup>, depending on the motor size.

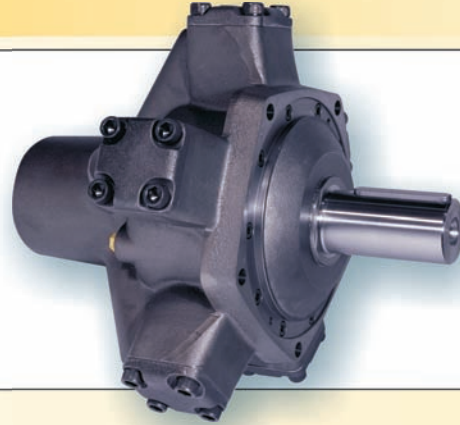


## RM series »

### Radial piston motors

Type RM80N - RM5000X

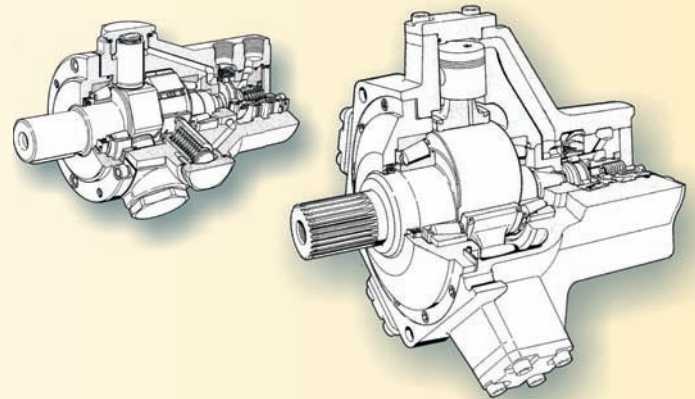
displacement	80 - 5278 cm <sup>3</sup> /rev
operating pressure	250 bar
speed	up to 800 rpm
torque	288 - 19320 Nm



Radial piston motor	Displacement (cm <sup>3</sup> /U)	Torque (Nm)	Speed (1/min)	Pressure (bar)	Power (kW)
RM 80N	80	288	800	250	12
RM 125N	126	450	600	200	12
RM 160N	161	589	800	250	24
RM 250N	251	920	600	200	24
RM 250X	255	934	600	250	28
RM 355X	359	1315	550	250	36
RM 450X	442	1617	500	250	40
RM 500X	491	1797	450	250	40
RM 710X	704	2579	500	250	63
RM 900X	904	3310	450	250	63
RM 1000X	1047	3825	650	250	125
RM 1250X	1266	4633	540	250	125
RM 1400X	1407	5150	500	250	130
RM 1600X	1608	5875	430	250	130
RM 1800X	1810	6625	390	250	130
RM 2000X	2011	7360	350	250	130
RM 2500X	2533	9275	310	250	145
RM 3150X	3167	11592	250	250	145
RM 4000X	4013	14700	200	250	150
RM 4500X	4508	16500	175	250	150
RM 5000X	5278	19320	150	250	150

The comprehensive RM range feature:

- » Choice of shafts
- » Double shaft extension
- » Motor and brake combinations
- » Geared motors; gear motor and brake combinations
- » Tachometer and other measuring attachments
- » Couplings, flanges
- » Viton seals
- » Special models for HFB and HFC non-flammable fluids
- » Direct valve assembly possible
- » Connection SAE J 518 high pressure (type: A1)



The radial piston hydraulic motor has been designed with a high load capacity.

It is efficient, has a low moment of inertia and is capable of very low speeds and has excellent reversing properties.

The concept features make it extremely quiet, being suitable for servo control systems with facility to work either as a motor or pump in both directions.

Drive Motor: consists of a close grain, high strength, cast iron cylinder block. Eccentric crankshaft concept.

Operating characteristics: five radial piston/connecting rod assemblies bear on the crankshaft which is located by heavy duty tapered roller bearings.

Crankshaft bearings: preloaded to take the thrust in both axial directions, ensuring silent running and allows heavy radial and axial loading on the output shaft (e.g. gear drives).

Connecting rod: the computer optimized design is hydrostatically balanced on the crankshaft with sufficient leakage to ensure lubrication and cooling. Friction losses are reduced to a minimum and stick slip action is avoided at low speeds. High starting torque and running torque combined with high speeds are important features of the design. Long service life is assured since con-rod slippers are unaffected by contamination and self-adjustable. Non-flammable fluids have been used with success. Noise generation is also reduced by the cushioning effect of the hydrostatic bearing design.

## Variable motors »

Radial piston motor	Displacement		Speed range		Torque		Power <sub>continuous</sub>		Power <sub>intermittent</sub>	
	V <sub>g max</sub> (cc/rev)	V <sub>g min</sub> (cc/rev)	V <sub>g max</sub> (rpm)	V <sub>g min</sub> (rpm)	V <sub>g max</sub> (Nm/bar)	V <sub>g min</sub> (Nm/bar)	V <sub>g max</sub> (kW)	V <sub>g min</sub> (kW)	V <sub>g max</sub> (kW)	V <sub>g min</sub> (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