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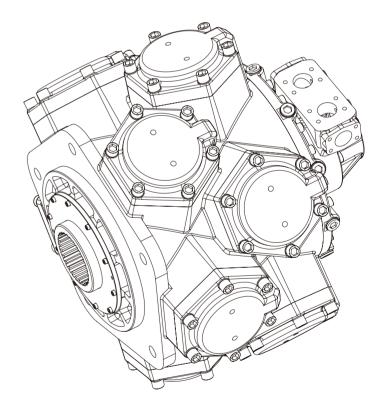






Low-Speed High-Torque **CM Series Hydraulic Motor**

Intermot Product Catalog



NINGBO OIL CONTROL HYDRAULIC CO., LTD. NINGBO INTERMOT HYDRAULIC MOTOR CO., LTD.

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ABOUT US

NINGBO OIL CONTROL HYDRAULIC CO., LTD. is a Sino-Italian Joint venture specializing in designing and manufacturing of hydraulic motor, gearbox, hydraulic winch and other hydraulic products. Evolving from its predecessor NINGBO INTERMOT HYDRAULIC MOTOR CO., LTD., established by INTERMOT S.r.I. (Italy), R&D S.r.I. (Italy) and the holding family members of SAI S.p.a. (Italy), Ningbo Oil Control has more than 20 years of experience and in-depth know-how in the hydraulic industry. Our products have covered a great variety of applications throughout the world with INTERMOT brand renowned for its outstanding price for value to the customers. Relying on the latest technology from Italy, the company integrates the corporate functions of R&D, designing & proto-typing, production, testing and marketing.

Up to now, we possess modernized workshop of over 20,000 square meters and an array of high-quality automatic machinery and equipments from Europe, Japan and Taiwan with the ultimate pursuit of quality, stability and precision. Our staff is qualified with strict professional training, competitive skills and personality. With management information systems such as ERP and CRM, we are certified with IS09001:2000 and CCS marine certification. Scientific and efficient management has also contributed to the excellent quality of INTERMOT products and responsive and professional after-sales service has won great reputation in the industry.

Our main product range includes: NHM series, CM series, FMB (fixed disp.) / FMC(dual-disp.) series of lowspeed high-torque hydraulic motor, OILW travel gearbox, OILP planetary gearbox, OILH hydraulic winch, EPMZ orbit hydraulic motor. Meanwhile, we are also the distributor of the hydraulic products such as 'M+S' orbit motor of Bulgaria and orbit motor of Eaton Jining. Our hydraulic motors are widely applied in construction engineering, hoisting and transportation, metallurgic and heavy duty machinery, oil extraction, coal mining, marine applications, machine tools, plastic molding machines, geological prospecting and other hydraulic transmission systems. Our products are particularly suitable for driving injection mounding machine, lifting screw drives, driving winch and various rolling drums, as well as other transmission mechanics like track and wheel machines. Confronting with the challenge of the new century, we always honor our quality slogan, being 'Take responsibility for our products and services, while fulfilling the actual demands of our customers'. In pursuit of quality, we are keen to provide our customers with reliable products and services, striving to be the leader in the hydraulic motor sector in China.

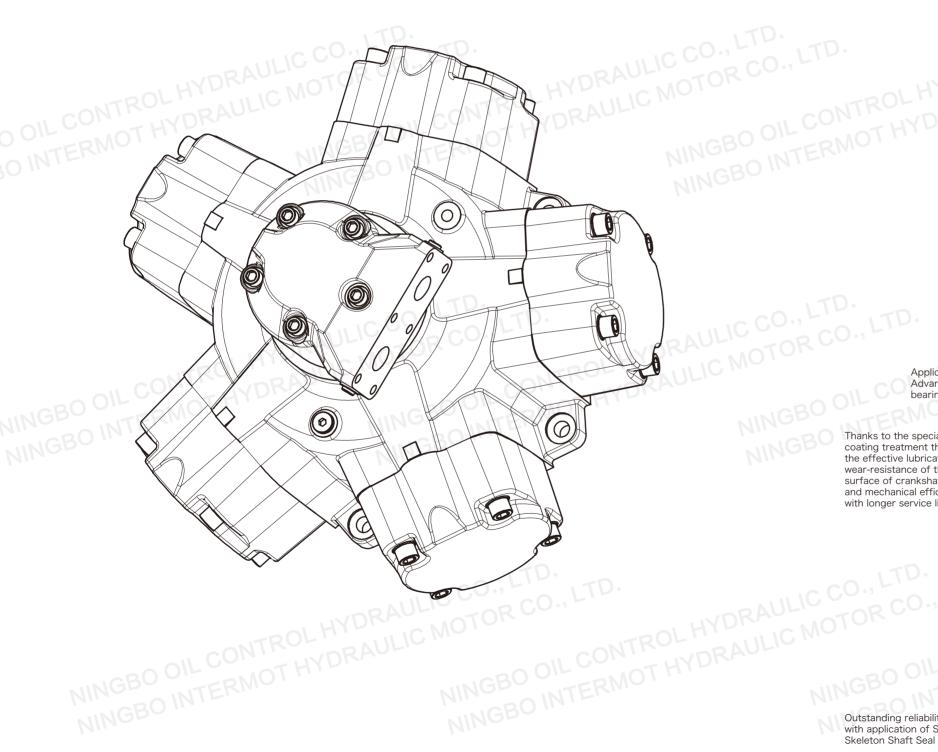
CONTENTORAULIC CO. LTD.

O'TIP VILIC CO'	
CONTENT PRAULIC CO., LID.	
CONTENT	
CM series hydraulic motor	01
CM series Product Feature	02
Calculation & Ordering Code	03
CM series Technical Specification	04
Instrcutions and Precautions	05
Installation Dimensions/Output Shaft Options for CM16	07
Transfer Solution for CM16	08
Installation Dimensions/Output Shaft Options for CM24	09
Transfer Solution for CM24	10
Installation Dimensions/Output Shaft Options for CM54	11
Transfer Solution for CM54	12
Installation Dimensions/Output Shaft Options for CM82	13
Transfer Solution for CM82	14
Installation Dimensions for CM90	15
Transfer Solution for CM90	16
Installation Dimensions for CM100/160	17
Transfer Solution for CM100/160	18
Installation Dimensions for CM230	19
Transfer Solution for CM230	20



THYDIAN CO., LTD.

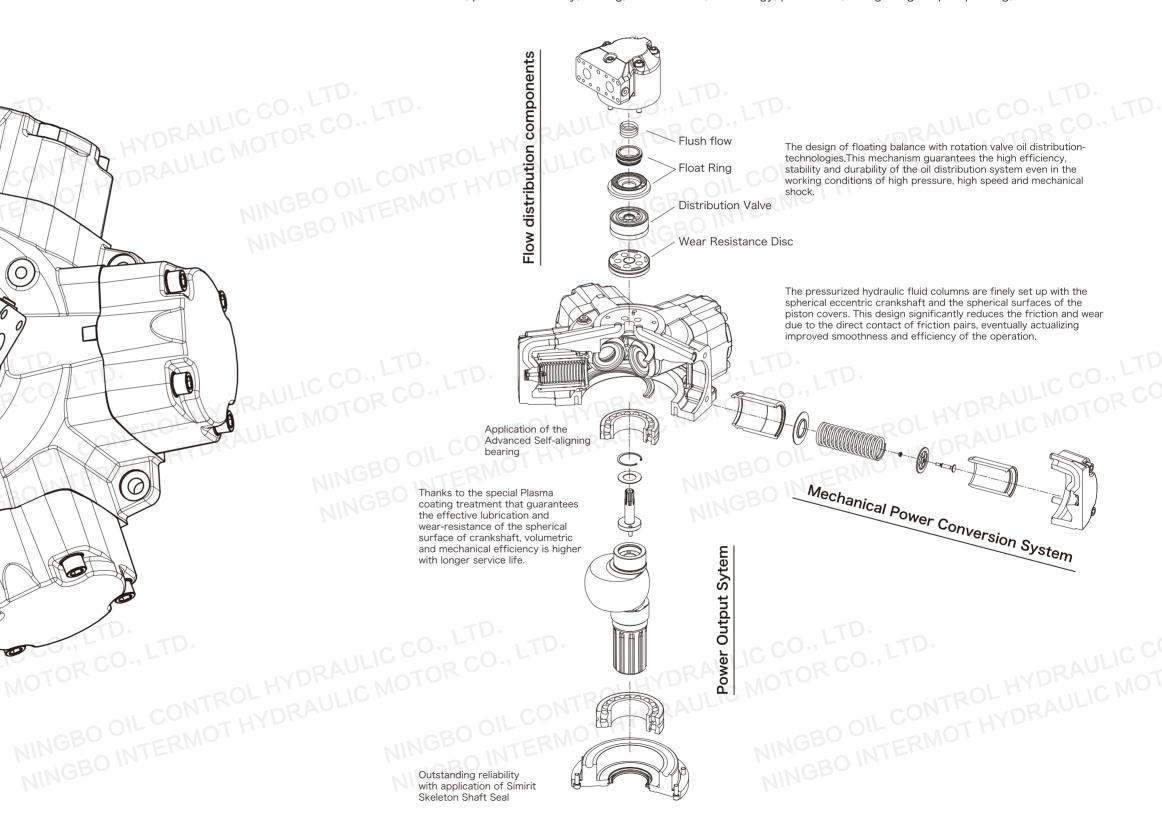
GBO OIL CONTROL HYDRAULIC CO., LTD. RMOT HYDRAULIC MOTOR CO., LTD. CM series hydraulic motor





PRODUCT FEATURES

CM series hydraulic motors are new structural hydraulic motors introduced by our company. These motors have the advantages of high reliability, high efficiency, long life, low noise, large displacement and wide speed range, so that they can be widely used in the hydraulic transmission systems in a number of industries such as marine, plastic machinery, mining, construction, metallurgy, petroleum, and geological prospecting, etc...



CALCULATION

Actual output torque of hydraulic motor:

 $M = 0.159 \times (P_1 - P_2) \times V \times \eta_m (N.m)$

Output power of hydraulic motor:

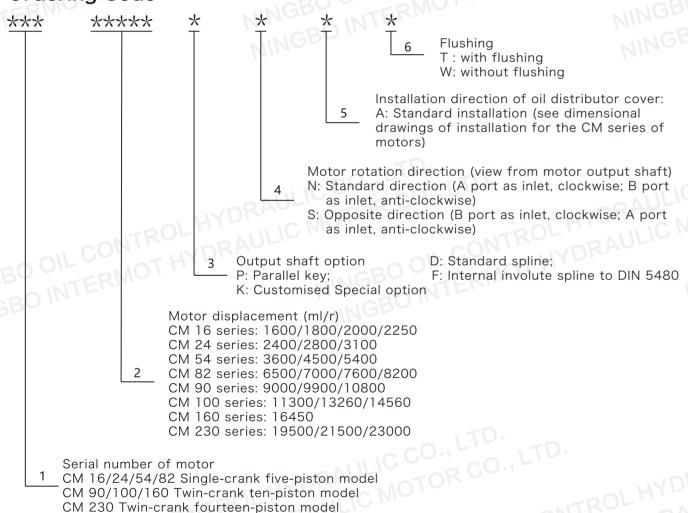
$$N = \frac{MXn}{9550} (kW)$$

$$N = \frac{q \, X \, (P_1 - P_2)}{60000} \, \eta_m \, X \, \eta_v \quad (kW)$$

Where:

 P_1 — Pressure at inlet of hydraulic motor (Mpa) P_2 — pressure at outlet of hydraulic motor (Mpa) V — Displacement of hydraulic motor (ml/r) η_m — Mechanical efficiency of hydraulic motor η_m Rotation speed of hydraulic motor (r/min) η_m — Flow of hydraulic motor (ml/min)

Ordering Code



Examples:

CM54-5400DNAT refers to CM54 single-crank five-piston model hydraulic motor,nominal displacement is 5400ml/r,Shaft type is D,Motor rotation direction is N,Installation direction of oil distributor cover is A, With flushing.

Technical parameters of CM series motor

ı		- 516	2BO 11		T	1	T			
	Туре	Displacement (ml/rev)	Unit Torque (N.m/Bar)	Rated Pressure (Bar)	Max. Pressure (Bar)	Max.Power (KW)	Rated Torque (NM)	Rated Speed (without flushing) (r/min)	Max. Speed (with flushing) (r/min)	Weight (kg)
CM16										
	CM16-1600	1646	24.9	210	250	110	5221	210	240	220
	CM16-1800	1816	27.4	210	250	115	5760	205	235	220
	CM16-2000	2043	30.9	210	250	120	6480	200	230	220
-	CM16-2250	2213	33.4	210	250	125	7020	190	220	220
		DRAU	-10-T(RU	CM24		·v/DF	AULI	OTOF	CO.
1	CM24-2400	2476	37.4	210	250	155	7854	190	210	330
٧	CM24-2800	2808	42.4	210	250	170	8907	180	200	330
V	CM24-3100	3104	46.9	210	250	185	9846	170	190	330
			1101	GBO I	CM54	I		I		
	CM54-3600	3635	54.9	210	250	185	11530	145	175	550
	CM54-4500	4518	68.2	210	250	210	14331	130	145	550
	CM54-5400	5401	81.6	210	250	210	17132	110	130	550
					CM82	ı				
	CM82-6500	6506	98.3	210	250	250	20637	110	130	780
	CM82-7000	7030	106.2	210	250	250	22300	100	120	780
	CM82-7600	7628	115.2	210	250	250	24196	95	115	780
	CM82-8200	8226	124.3	210	250	250	26093	90	110	780
	CONI	LIVDE	SAOP.		CM90	11 CO	MILL	VDRA	OF.	
	CM90-9000	9037	136.5	210	250	270	28666	110	130	820
1	CM90-9900	9868	149.1	210	250	285	31302	100	120	820
	CM90-10800	10802	163.2	210	250	300	34264	90	110	820
					CM100	I				
	CM100-11300	11548	174.4	210	250	310	36631	90	110	1050
	CM100-13260	13273	200.5	210	250	320	42103	80	100	1050
İ	CM100-14560	14601	220.5	210	250	335	46315	70	90	1050
	LTD.	TD			CM160	OLT	D			
1	CM160-16450	16453	248.5	210	250	335	52190	60	75	1080
1	UIN		OL HY	DIV	CM230	UIT		- 0	LHYL	Nr.
	CM230-19500	19684	297.3	210	250	350	62439	60	65	1480
	CM230-21500	21778	329.0	210	250	360	69081	55	60	1480
1	CM230-23000	23034	347.9	210	250	375	73065	50	55	1480
I	עואט".					MAD				

The above data are measured and obtained under specific actual experimental conditions, and only for product description purposes. The data should not be interpreted as warranted characteristics in legal term. Ningbo Intermot (Ningbo Oil Control Hydraulic Co., Ltd.) reserves the rights to implement modifications without notice. All Partial or total reproduction and copy of such data without formal authorization is strictly forbidden.



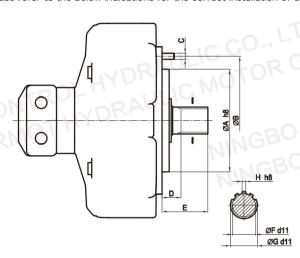


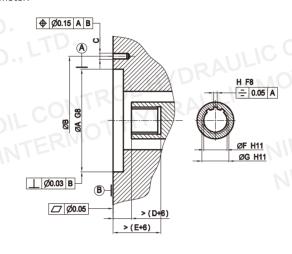
Instructions and precautions

1.INSTALLATION

Before installing the motor, please check carefully for any defects or damages due to transportation and/or storage. For mounting dimensions please refer to the corresponding series catalogue for details. The motor must be installed using the proper screw size (we recommend the use of 10.9 and 12.9 class resistance level fixing screws) and must be firmly fixed onto a structure that is capable of correctly supporting the motor during operation. For this reason the structure must be sturdy enough to not only support the motor weight but also to assure the absence of vibration during operation and must bear the reaction forces generated by the working torque.

Please refer to the below indications for the correct installation of the motor.

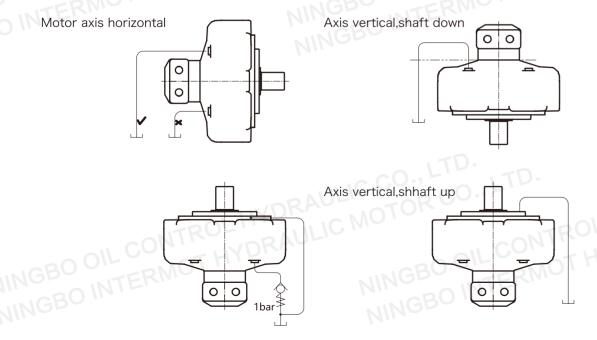




2.PREPARATION BEFORE START-UP

Motor case and pistons must be completely filled with hydraulic fluid before starting. Do not load motor to maximum working pressure instantly. In the case of cold start-up, please avoid high-speed operation until the system has reached the normal working temperature. Please ensure the drain port is directly connected to tank in the proper way, and avoid excessive drain line pressure losses (the continuous drain port pressure must not exceed 5 bar, if higher motor case pressure is needed, please consult our engineer in advance). The drain port of the motor case must be positioned on the highest point of the installation to ensure that the motor case is filled up with hydraulic oil at all times.

See below the drain recommendations for more details:



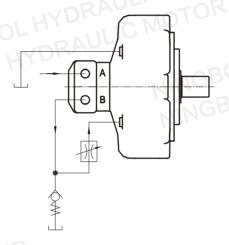
3.FLUSHING IGBO INTERMOT HYDRAUL

In pursuit of the optimized operation and service life of the CM series of motors, a properly set up Flushing circuit is recommended for:

- ♦ Improved bearing life due to the more effective cooling and lubrication to the bearings;
- ♦ Increased overall efficiency of the motor as a result of the optimized cooling and lubrication of the friction pairs of the parts;
- ♦ Impurities and metal particles effectively removed with the flushing mechanism to avoid damages to the parts.

Please refer to the flushing link installation diagram

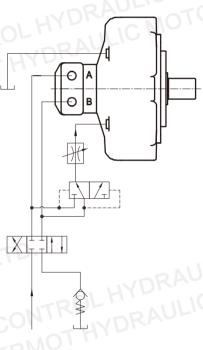
Port A Inlet, in single directional rotation application



Recommended flush flow

Type	Flush flow
CM16 、CM24	8 L/min
CM54 、CM82	10 L/min
CM90 、CM100、CM160	15 L/min
CM230	20 L/min

Port A Inlet, in bidirectional rotation application



4.HYDRAULIC OIL

The normal range of hydraulic oil viscosity for optimal performance is between 30~50cst. The ideal oil temperature is between 30°C~50°C, despite the allowed temperature range of -20°C~80°C.Regular checks must be performed on the quality of hydraulic oil. Replace the hydraulic oil if the quality indices exceed the relevant standards (In general, hydraulic oil is replaced at least once a year) It is strictly prohibited to use a mixture of different types of hydraulic oils. Recommended filtration is $25\,\mu$ m for industrial application. Please perform regular checks on the filters, and subsequently, clean or replace the filters periodically.

5.OTHERS

CM series hydraulic motors cannot operate as a pump, otherwise the normal service life will be negatively affected.

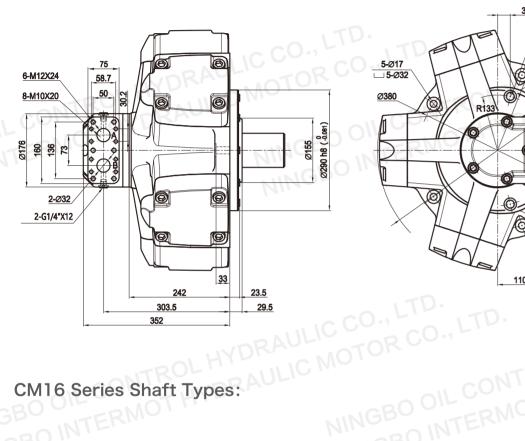
After operating for the first 150 hours, please check and remove all the impurities or particles inside the motor and maintain regular checks at least every year. Please check to ensure all the mounting bolts are properly fastened every 150 hours.

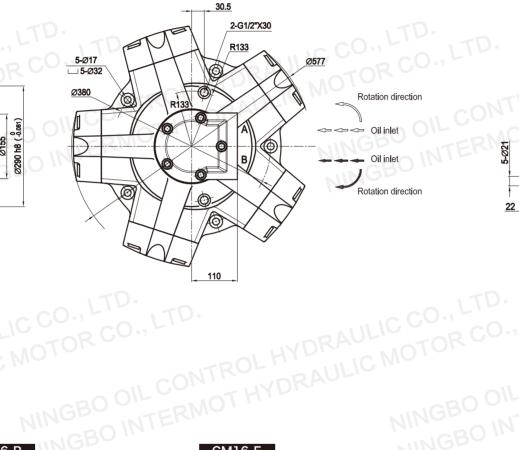




CM16-(1600/1800/2000/2250)

CM16 Series Installation Dimentions:

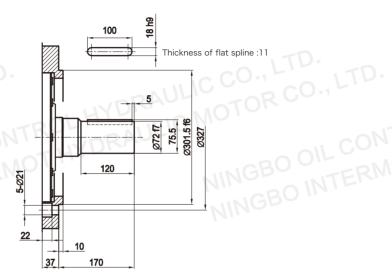




Transfer Solutions for CM16 series:

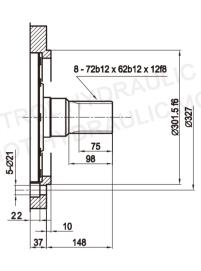
CM16-F-K14

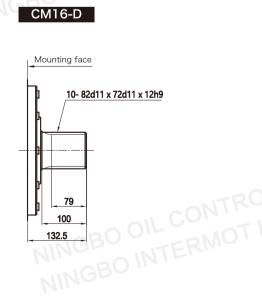
transfer to NHM16-B

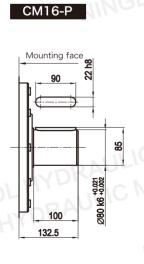


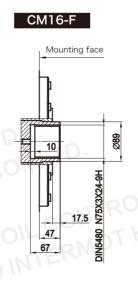
CM16-F-K11

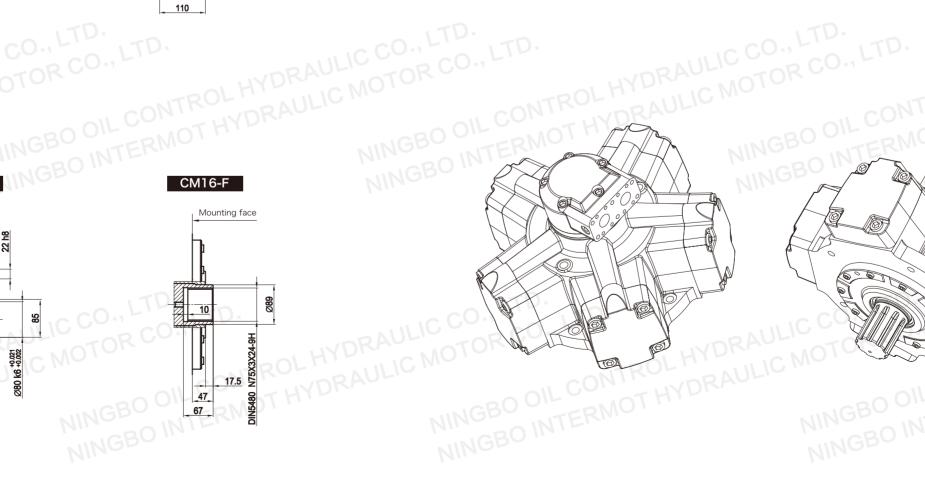
transfer to NHM16 standard spline

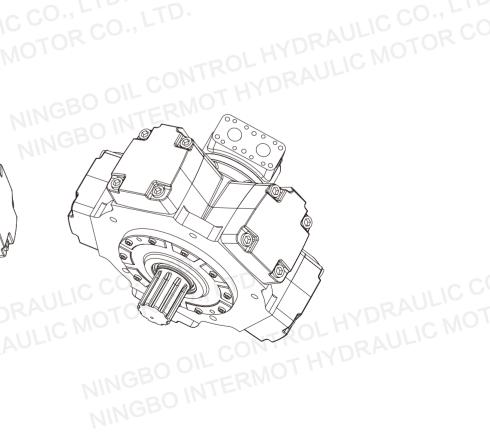










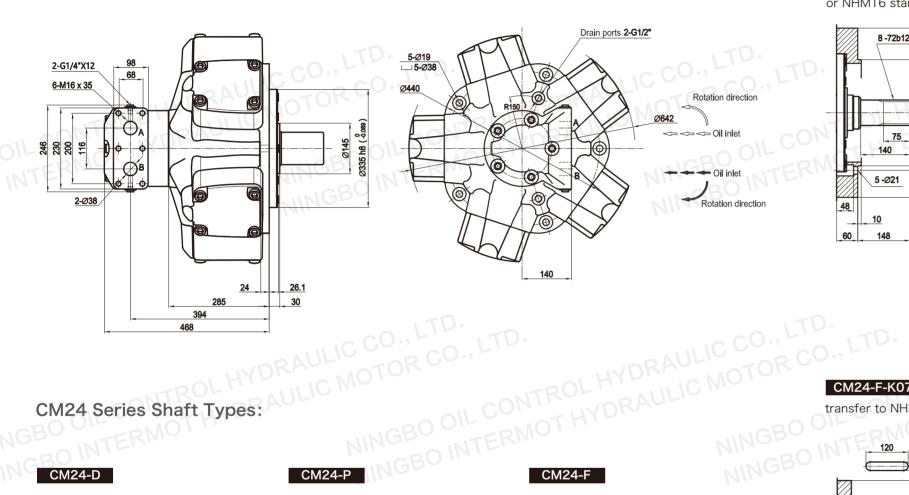






CM24-(2400/2800/3100)

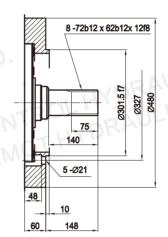
CM24 Series Installation Dimentions:



Transfer Solutions for CM24 series:

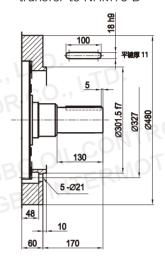
CM24-F-K04

transfer to IAM H5 A0 or NHM16 standard spline



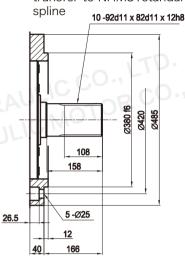
CM24-F-K02

transfer to NHM16-B

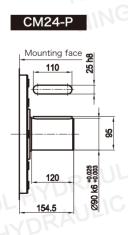


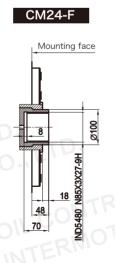
CM24-F-K06

transfer to NHM31standard



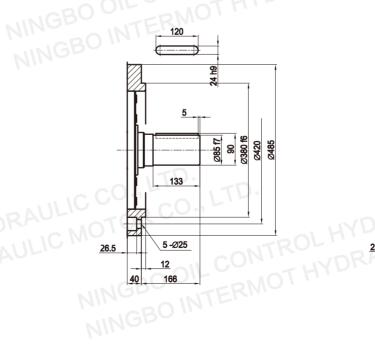
CM24-D 10- 92d11 x 82d11 x 12h9 100 NINGBO INTERMOT HYDRA



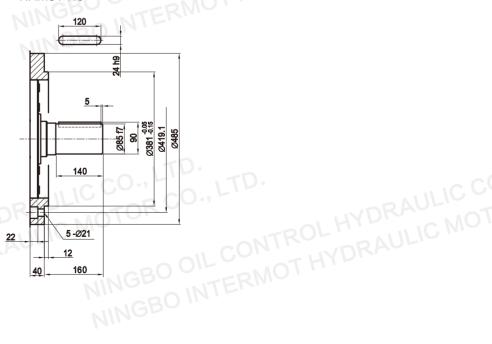


CM24-F-K07

transfer to NHM31-B



NHM31-H6

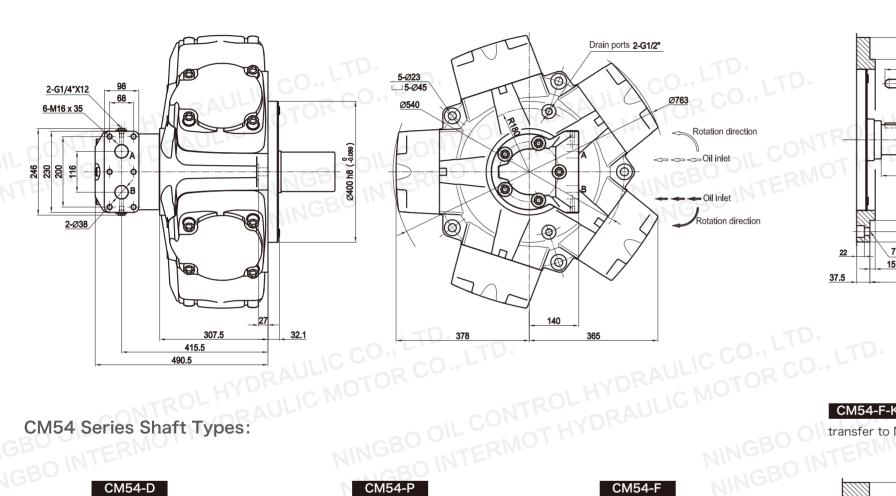






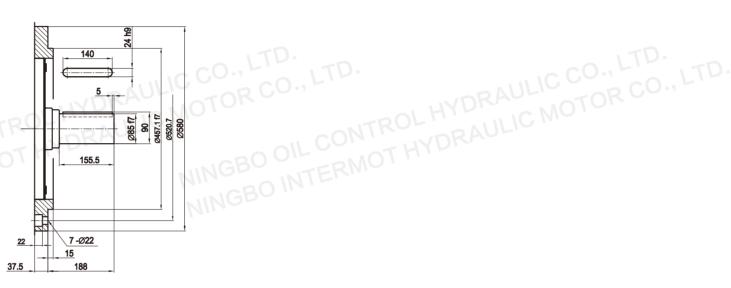
CM54-(3600/4500/5400)

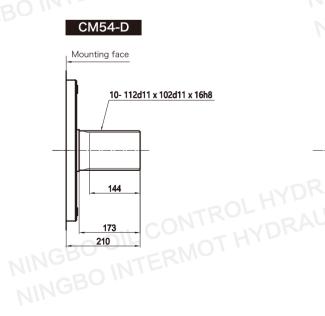
CM54 Series Installation Dimentions:

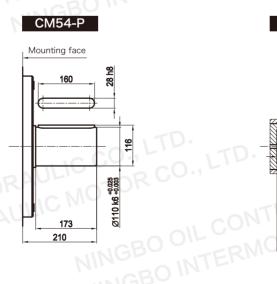


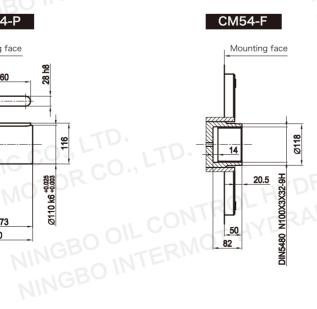
RMOT HYDRAULI Transfer Solutions for CM54 series:

transfer to HMB270/325-P1 or IAM H7 A2



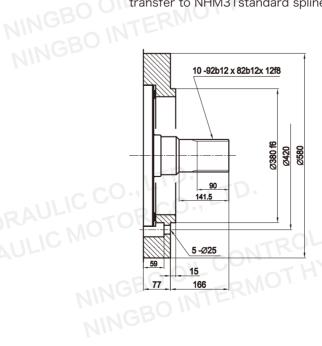






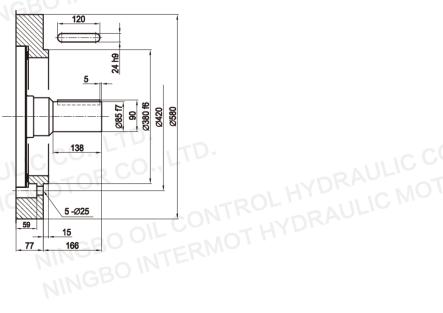
CM54-F-K32

transfer to NHM31 standard spline



CM54-F-K33

IT HYDRAULIC MOTOR CC transfer to NHM31-B

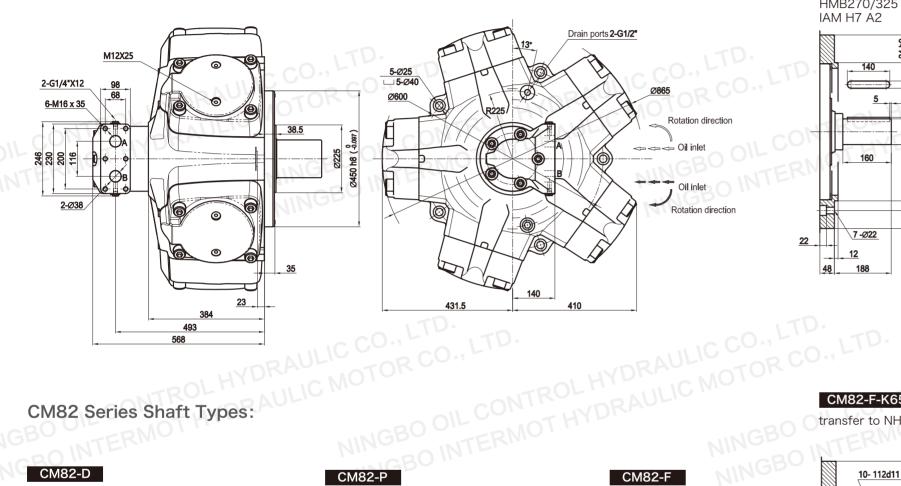






CM82-(6500/7000/8200)

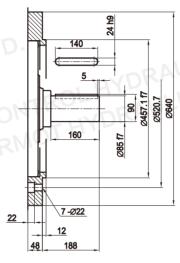
CM82 Series Installation Dimentions:



Transfer Solutions for CM82 series:

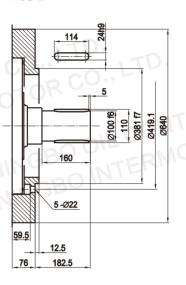
CM82-F-K61

transfer to NHM70-B or HMB270/325 P1 or IAM H7 A2



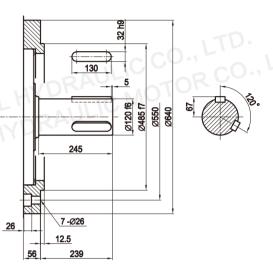
CM82-F-K62

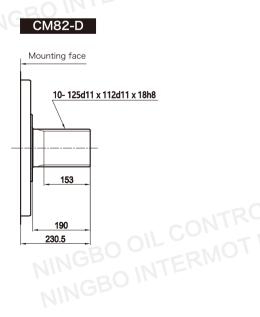
transfer to HMB400-P or

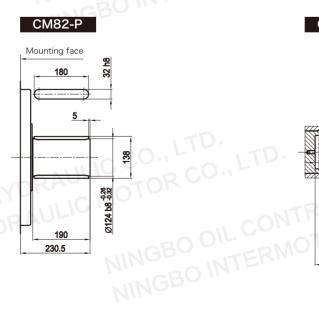


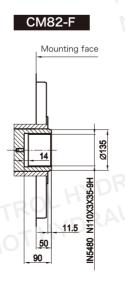
CM82-F-K64

transfer to F100-B



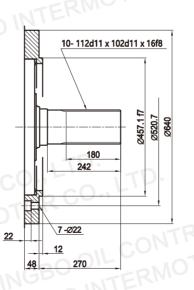




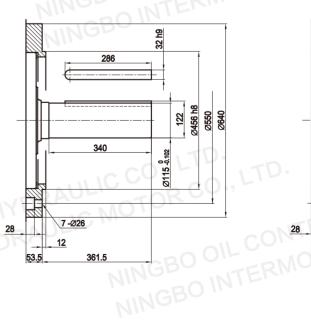


CM82-F-K65

transfer to NHM70-a3

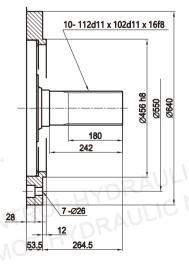


CM82-F-K67



CM82-F-K68

transfer to KYB MR-8600-B

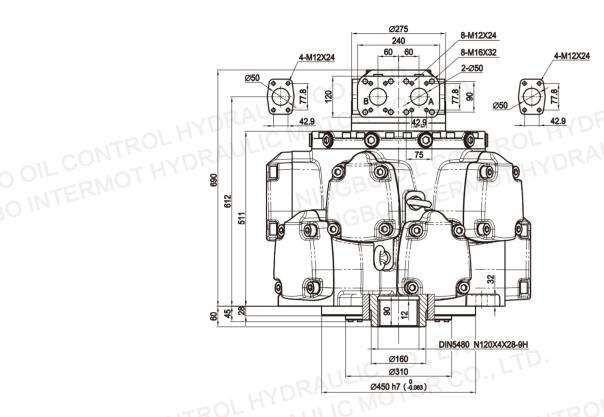


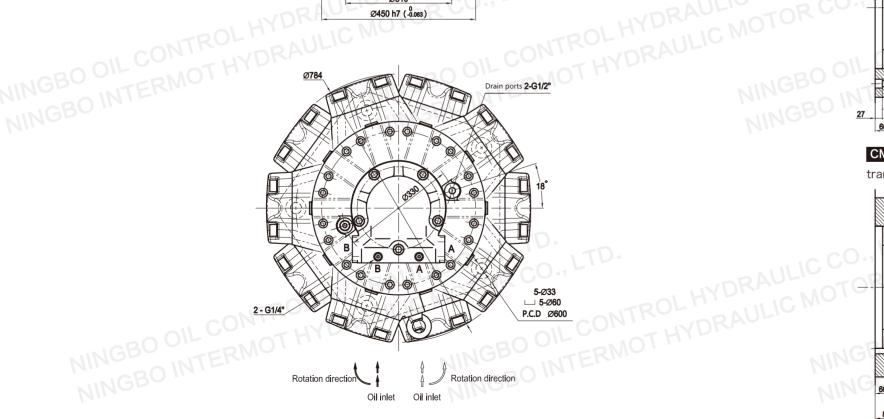




CM90-(9000/9900/10800)

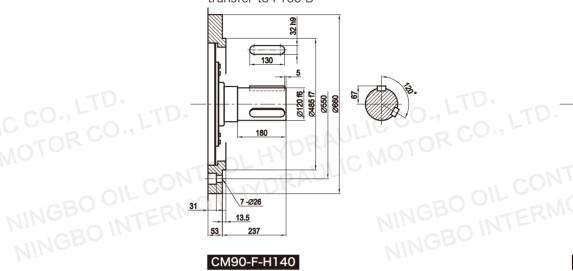
CM90 Series Installation Dimentions:





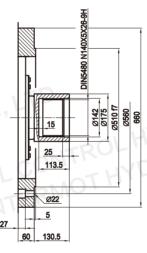
Transfer Solutions for CM90 series:

transfer to F100-B



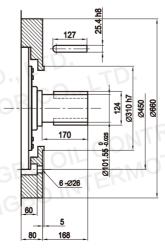
CM90-F-H140

transfer to CA140



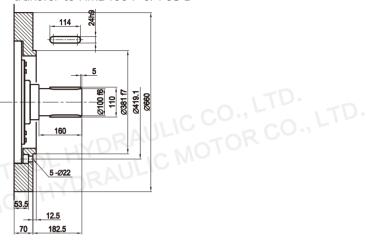
CM90-F-K81

transfer to MHT 750



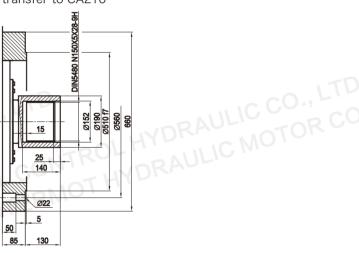
CM90-F-K83

transfer to HMB400-P or F68-B

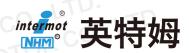


CM90-FH

transfer to CA210

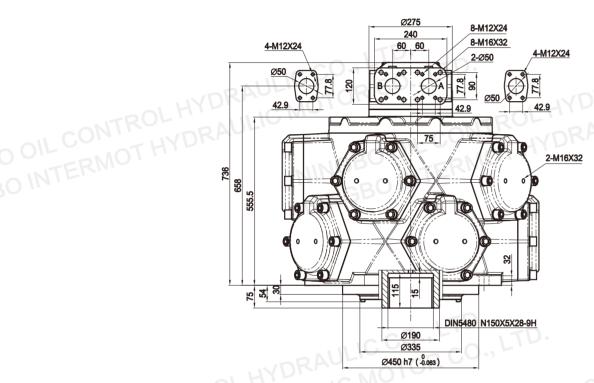


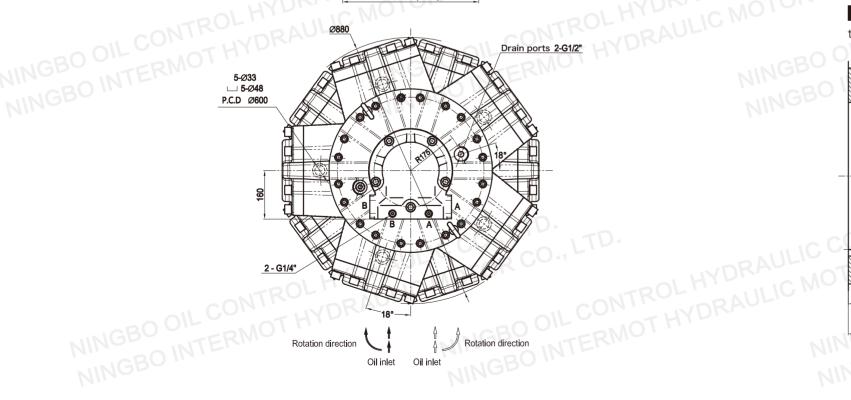




CM100-(11300/13206/14560)&CM160-16450

CM100/160 Series Installation Dimentions:

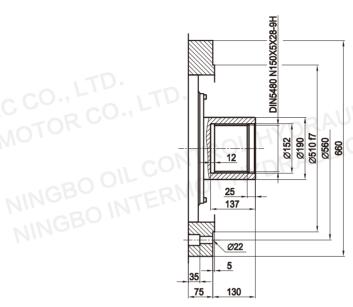




Transfer Solutions for CM100/160 series:

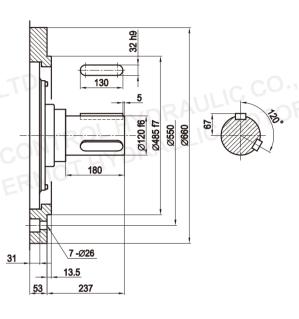
CM100/160-FH

transfer to CA210



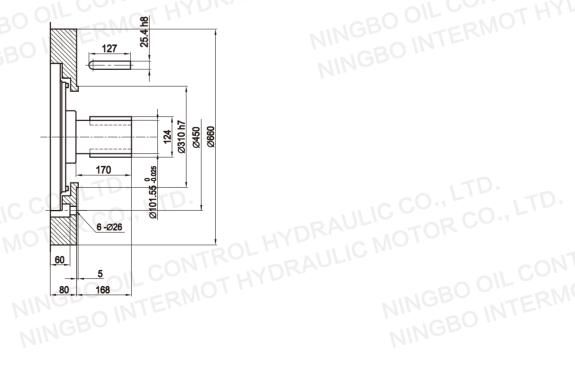
CM100/160-F-K92

transfer to F100-B



CM100/160-F-K94

transfer to MHT1000

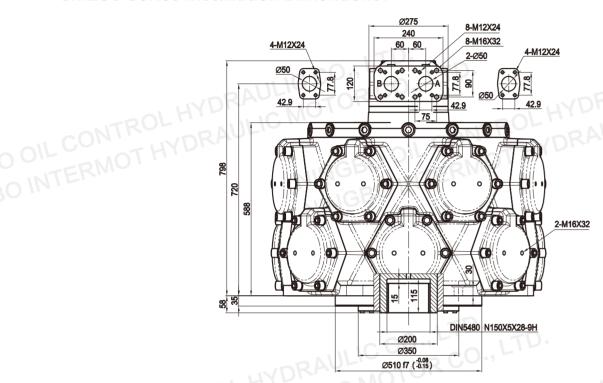


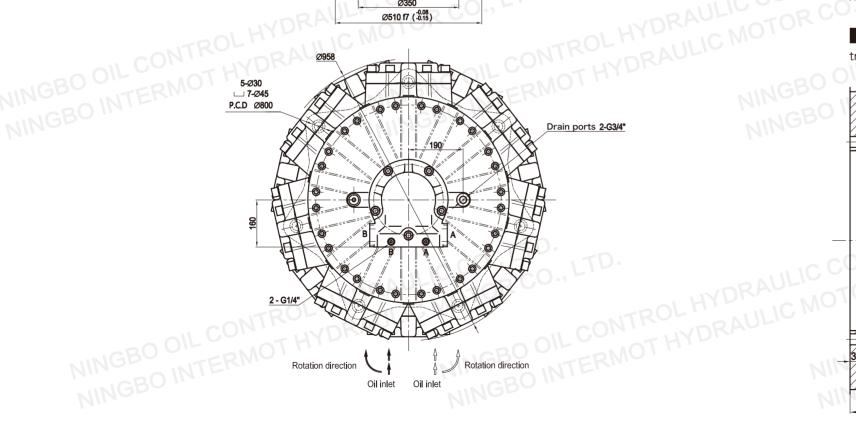




CM230-(19500/21500/2300)

CM230 Series Installation Dimentions:



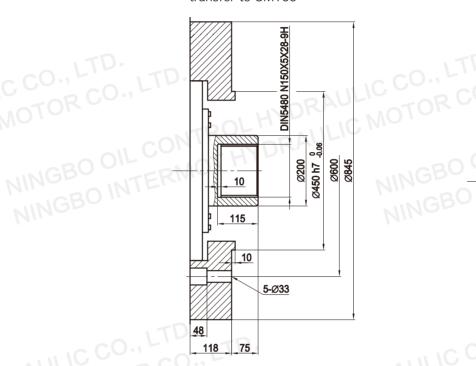


Transfer Solutions for CM230 series:

NINGBO

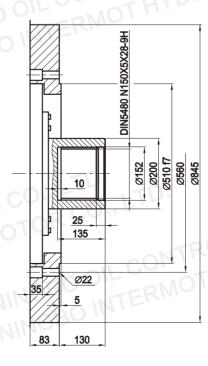
CM230-F-K101

transfer to CM160



CM230-FH

transfer to CM210+CA210



CM230-F-K102

transfer to MRTE23000

