

直交齿轮箱TSG系列
Right angle gearbox

冷却水塔专用齿轮箱
TCT系列
Gearbox TCT series
for Cooling Tower

挤出机TEX系列
Gearbox TEX series

密炼机TM系列
Gearbox TM series
for Internal mixer

TK斜齿轮
伞齿轮减速电机
TK-Helical
Bevel Geared Motor

TR斜齿轮
减速电机
TR-Helical
Geared Motor

TS斜齿轮
蜗轮蜗杆减速电机
TS-Helical
Worm Geared Motor

TF平行轴
斜齿轮减速电机
TF-Parallel Shaft
Helical Geared Motor

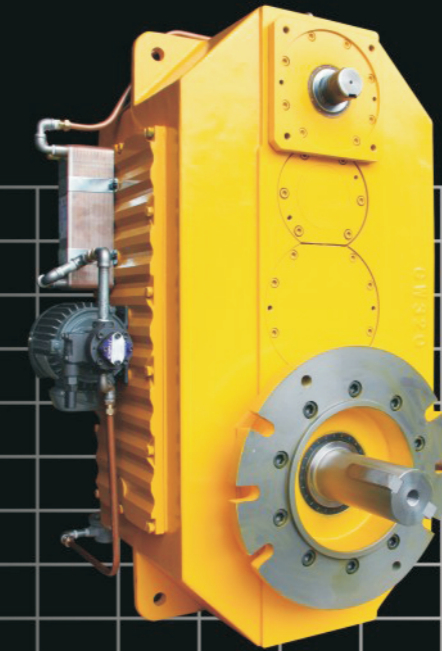
摆线减速机
Cycloidal Speed Reducers

行星减速机
Planetary Speed Reducers

水泥搅拌齿轮箱
Concrete mixture drive

TRANSCYKO®

注塑机TIN系列专用齿轮箱 TIN Series Gearbox for Injection Machine



TIN

TRANSCYKO®

蘇州廠

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Transmission Machinery Co.,Ltd.

NO.TRANSCYKO-2017-05-TIN



传仕精密股份有限公司创立于 1982 年，是一家专注于减速机马达研发与制造的专业生产厂商。优良的质量及快速反应的售服，赢得诸多客户的好评。

传仕以客户为中心，质量为生命。不断地创新及不懈的奋斗，铸成公司极具生命力的文化，公司开发了摆线针轮，行星减速及硬齿面齿轮箱。广泛应用于钢铁行业，化工行业，橡塑行业，冷却水塔行业及机械行业等。近几年已成功研发并生产 RV 减速机，应用于机器人及工程车辆的领域。

传仕研发的不断创新、精密的加工中心、精良的测试仪器、优秀的销售团队为您提供性能优越、品质最佳的机械产品。

全电式注塑机 TIN 系列齿轮箱，节能、成型周期短、污染小、噪音值低、节约冷却水、成型精度高、射出速度快、在原有模具做射出挤压成型和生壁厚保压时间长的产品效果极佳。

Transmission Machinery Co., Ltd. was founded on 1982, which is a professional manufacturer focuses on the R&D and produce speed reducer and geared motor. With excellent quality and best services, Transcyko wined good reputation from all our customers.

Transcyko based on customer-focused, quality as the life, with continuous innovation and unremitting struggle, which cast into the most vitality company culture. Transcyko developed cycloidal speed reducer, planetary gearbox and hardened face gear box, which Widely used in the industry of iron and steel, chemical, rubber, cooling tower and machinery etc. And in recent years we have successfully developed and produced RV reducer which used in the field of robot and engineering vehicle.

With the innovative research and development, precision machining centers, refined testing equipment and excellent sales team, Transcyko will provide you with superior performance, best quality mechanical products.

TIN series all-electric injection molding machine, with the features of energy saving, short molding cycle, little pollution, low noise level, saving cooling water, high molding precision, fast injection speed, which achieved excellent performance to made injection extrusion forming and produce thick wall longer dwell time products.

一般事项

TIN 齿轮箱主要是为了驱动射出机上的塑化螺杆而开发的。这些拥有平行轴的齿轮箱，由于其特殊的配置设计和制造，很适合用于高扭矩的传输以及承受高速运转，不仅噪音低而且提供超过 95% 以上的工作效率。

在输入（电动马达）和输出（连接驱动螺杆和料管）的黄金距离设计采用三组齿轮（亦即 3 段减速设计），是为使得入力之间的空间足以整合包括马达、齿轮箱、螺杆和料管完整之系统成一“U”型设计，以节省空间并能发挥最大效益。

外箱

齿轮箱的外箱材质为灰口铸铁 FC250 或球墨铸铁 FCD450 或钢制箱体。

齿轮

齿轮是斜齿设计，材质为 20NiCrMo 或 18NiCrMo7。它的外型是根据 DIN6（或以上）品质标准，以确保最低噪音和高效率。

轴承

此系列的齿轮箱均设有双滚子轴承，由一流制造商所制造并有相当多规格。

马达法兰和驱动轴

（可直接取代传统的油压系统）

为了便于组装 TIN 系列的齿轮箱于射出机上，马达法兰和入力轴为标准配备，其连接方式与传统的油压马达系统相同。

这种设计让客户能在很短的时间内不用任何机器上的修改即可将传统油压系统替换为电动机械传动方式。

另可依据客户的图面要求，制造特殊的马达法兰和入力轴的齿轮箱。

出入部分的法兰是采用铸铁制的，而出力轴则采用调质式的钢材所制造而成。

General notes

The gearboxes of the TIN3 series have been developed for the driving of plastifying screws for injection moulding presses. These gearboxes with parallel arranged axes, due to their special configuration provided during design and construction, are suitable to transmit elevated torque rates and to receive high input revolutions, causing only a low noise level and offering a service ration over 95%. The great distance between input (electric motor) and output (connection with drive-screw and cylinder) designed by using 3 toothed gear pairs avoids any problem of interference between the different components. The special execution in U shape optimizes the overall dimensions of the entire system of motor/gearbox/drive-screw and plastifying cylinder.

Casing

The casing of the gearboxes is made of grey cast-iron FC250 or ductile cast iron FCD450 or welded steel.

Gears

The gears are made of case-steel type 20NiCrMo or 18NiCrMo7 and have a helical toothing. The profile is ground to DIN6 quality so to ensure the lowest noise level and an efficient use.

Bearings

The gearboxes of this series are provided with double roller bearings of excellent makers and considerable size.

Flanges and drive shafts

(interchangeable with the hydraulic system) In order to facilitate mounting of the gear boxes of the TIN-P3 series to the injection presses, the standard version is supplied complete with flange and drive-shaft having the same fittings which are normally used for the typical hydraulic motor systems. This construction enables the customer to prepare the electromechanical solution within a short time without any modification on the machine, thus having an alternative solution to the hydraulic version. On request, the gearboxes can be supplied with special flange and drive-shaft according to the customer's drawing. The connection flanges on the output are made of nodular cast-iron and the output shafts are made of tempered steel.

使用系数

此目录上所显示的传输功率是依据使用系数 1 为基本考量。为选择最适当之齿轮箱，我们建议选择使用系数在 1.35 到 2 之间的齿轮箱。

润滑系统

TIN 系列的齿轮箱常用的组装连结方式为 W1 的安装位置（齿轮箱是直立式而输入轴是在上方与机台平行）。

在这个安装位置，齿轮箱仅需溅式润滑即可正确运作。但为妥善控制操作温度，建议对 280 至 450 较大型号的齿轮箱，使用马达泵浦进行强制润滑，此方式可降低齿轮箱内的油量高度，进而降低温度，而且可以确保输入轴的轴承可以有充分的润滑。

齿轮箱的箱体附有注油孔盖，洩溢油栓以及油面指示器。为确保运输的安全关系，所有的齿轮箱交货时均不附润滑油。

因此

请注意：齿轮箱必须在试机前先补充适量的润滑油。

第一次的更换润滑油必须在 300 个工作小时后为之（试运转时期）。而后每次更换润滑油则必须在每 4000 个工作小时后进行。

Service factor

The transmittable power rates shown in this catalog have been calculated considering a service factor=1. For best dimensioning of the gearbox, we suggest when selecting the gearbox type to assume a service factor between 1.35 and 2.

LUBRICATION

The gearboxes of the TIN3 series normally will be used in the mounting position W1(Gearbox in vertical position with input shaft horizontally at the top).

In this mounting position the gearbox works correctly with only splash lubrication.

However, for improving the operation temperature, for the bigger gearbox sizes for 280 to 450 a forced lubrication is recommended by means of a motorpump which is able to reduce the temperature by lowering the oil-level in the casing, however always ensuring a correct lubrication of the bearings on the high-speed shaft.

The gearbos casing has a filler cap with breather, a drain plug and an oil-level indicator. For transport reasons, all gear-boxes are shipped without oil.

Therefore

ATTENTION:Right amount lubricating oil must be filled before test-running the gearbox.

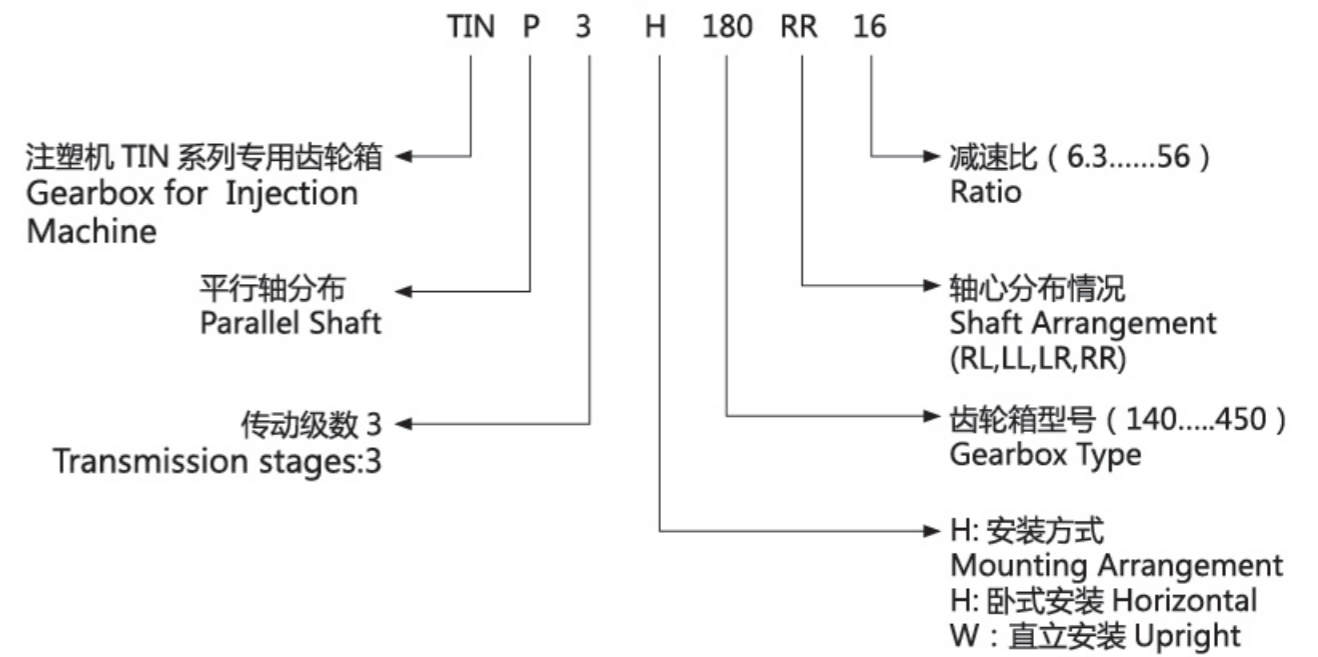
The first time oil changing must be carried out after 300 operation hours (run-in period).The next oil-changes must be done every 4000 operation hours.

Recommended oil types 润滑油建议表

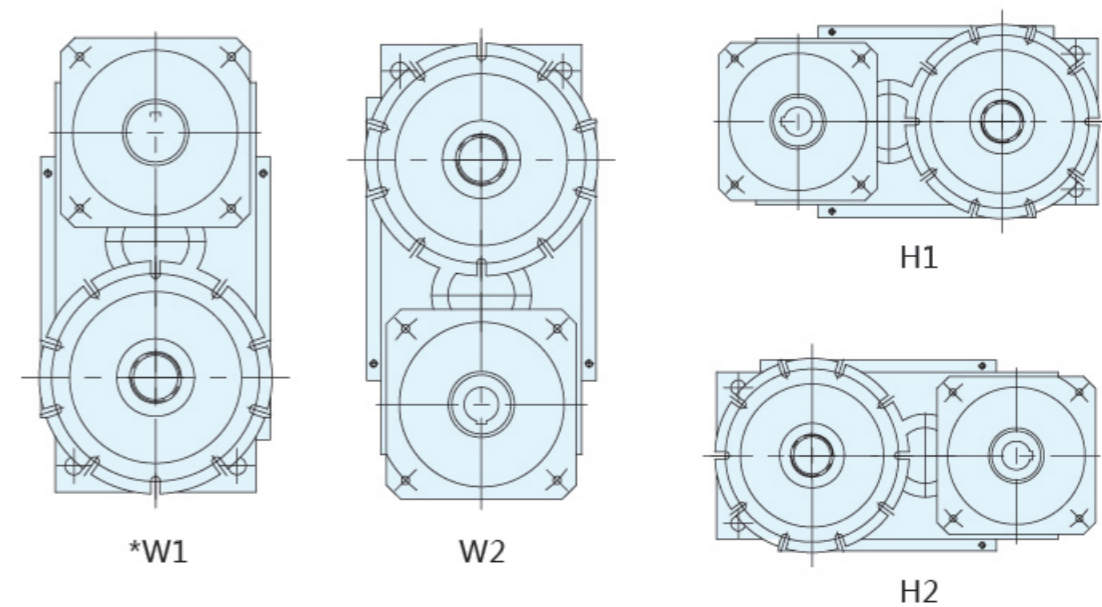
Type of lubricant 润滑油种类	Application 用途	Lubricant 润滑油			
		OIL 油品		AMBIENT TEMPERATURE 适用室温	
Mineral oil 矿物油	Reduction gearboxes 减速齿轮箱	ISO VG 220EP	-15°C ~ +15°C		
		ISO VG 320EP	+10°C ~ +40°C		
		Corresponding Lubricants 可替代之同等级润滑油			
		Type	Brand-name	Type	Brand-name
	MELLANA OIL BLASIA	IP AGIP	MOBIL GEAR 600XP OMALA EP	MOBIL SHELL	

型号表示方法

Model Representation



安装方式
Mounting Arrangement

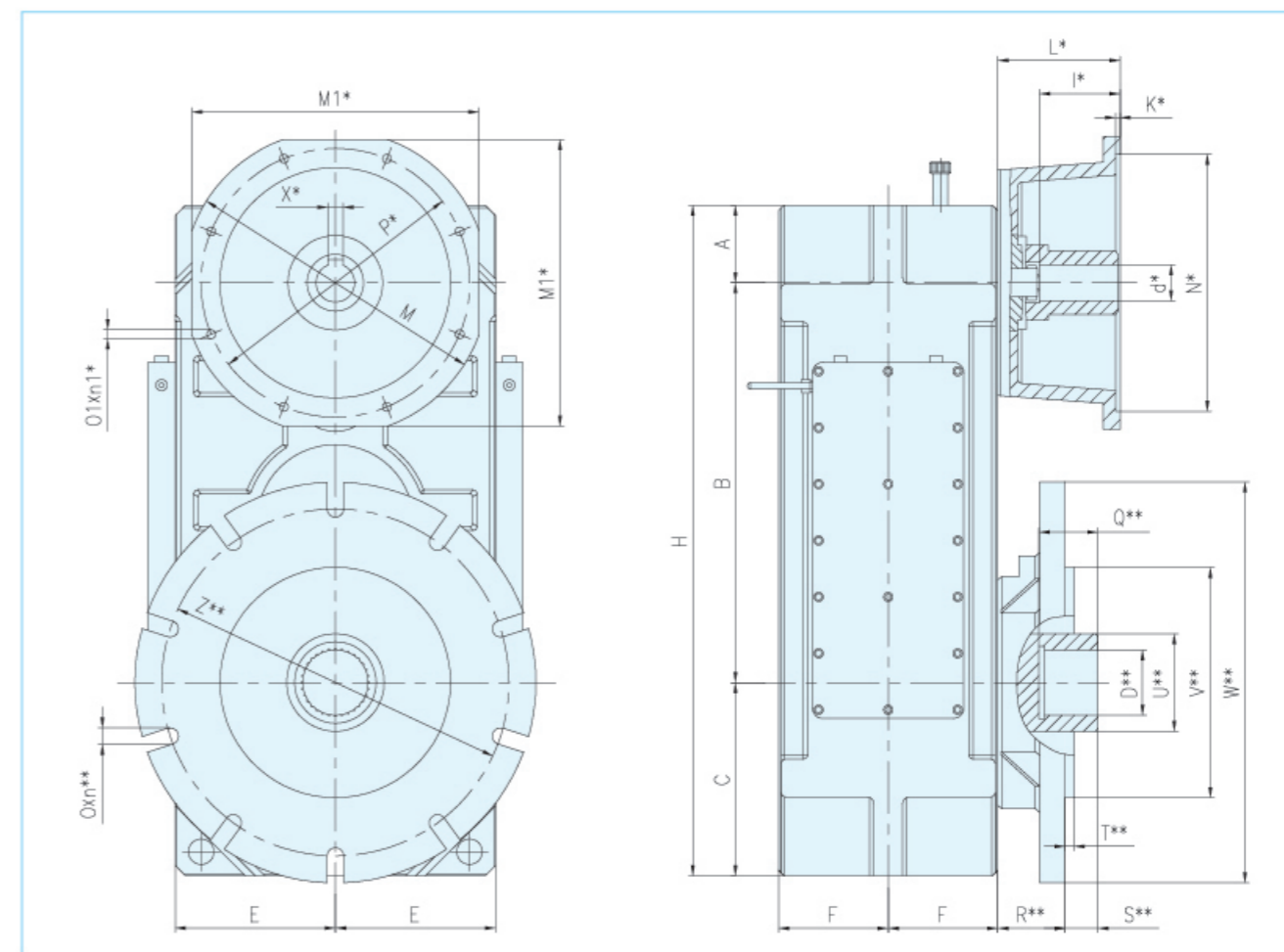


* 标准方向 Standard Position

n1 rpm	360					400					450				
	i	n2 rpm	MN Nm	PN kW	Pt kW	i	n2 rpm	MN Nm	PN kW	Pt kW	i	n2 rpm	MN Nm	PN kW	Pt kW
2200		349	42777	1631	170		349	64328	2412	211		349	84172	3154	274
1800	6,3	286	42993	1341	170	6,3	286	64653	1984	211	6,3	286	84596	2594	274
1500		238	43210	1123	170		238	64978	1661	211		238	85022	2172	274
2200		275	56190	1631	170		275	80167	2412	211		275	106099	3154	274
1800	8	225	56474	1341	170	8	225	80571	1984	211	8	225	106635	2594	274
1500		188	56758	1123	170		188	80976	1661	211		188	107170	2172	274
2200		220	70650	1631	170		220	103718	2364	211		220	137791	3154	274
1800	10	180	71008	1341	170	10	180	104243	1944	211	10	180	138487	2594	274
1500		150	71364	1123	170		150	104767	1628	211		150	139182	2172	274
2200		176	73384	1398	170		176	104635	1924	211		176	131415	2542	274
1800	12.5	144	73754	1150	170	12.5	144	105164	1582	211	12.5	144	132079	2090	274
1500		120	74125	963	170		120	105692	1325	211		120	132742	1750	274
2200		138	75671	1068	170		138	104276	1475	211		138	143847	2167	274
1800	16	113	76053	878	170	16	113	104802	1213	211	16	113	144574	1782	274
1500		94	76435	736	170		94	105329	1016	211		94	145299	1493	274
2200		110	73234	885	170		110	106987	1212	211		110	159150	1792	274
1800	20	90	73605	728	170	20	90	107528	997	211	20	90	159953	1474	274
1500		75	73974	609	170		75	108068	835	211		75	160757	1234	274
2200		88	74040	671	170		88	103610	994	211		88	148941	1343	274
1800	25	72	74414	552	170	25	72	104134	818	211	25	72	149692	1104	274
1500		60	74789	462	170		60	104657	685	211		60	150444	925	274
2200		70	76167	551	170		70	104896	751	211		70	145931	1112	274
1800	31.5	57	76551	453	170	31.5	57	105426	618	211	31.5	57	146669	914	274
1500		48	76936	380	170		48	105956	517	211		48	147405	766	274
2200		55	76809	427	170		55	107553	652	211		55	147155	873	274
1800	40	45	77197	351	170	40	45	108096	536	211	40	45	147898	718	274
1500		37.5	77585	294	170		37.5	108639	449	211		37.5	148641	601	274
2200		44	75646	328	170		44	100340	466	211		44	148198	674	274
1800	50	36	76028	269	170	50	36	100847	383	211	50	36	148947	555	274
1500		30	76410	226	170		30	101354	321	211		30	149696	465	274
2200		35	74131	273	170		35	106929	378	211		35	148855	560	274
1800	63	29	74505	225	170	63	29	107468	311	211	63	29	149608	461	274
1500		24	74880	188	170		24	108009	260	211		24	150359	386	274

请注意:
 ·在室温 30°C时所能承受的最大热功率,若热功率需求大于表列数据时,必须选用强制冷却系统。
 ·上述表列 PN 值为额定马力在安全系数等于 1 的基础上所计算出的数值。计算最大可使用马力时请考量安全系数需为 1.5, 若输入转速高于 2600rpm 时请与我们技术部门联络。

ATTENTION:
 ·Maximum input power at ambient temperature of 30°C. If a higher input power is required, please ask for forced cooling.
 The indicated PN is the nominal power calculated with factor $\sigma(\text{agma})=1$. To calculate the maximum transmittable power please consider service factor $SF(\text{AGMA})=1.5$. For input speed higher than 2600 rpm please contact us.



Size 尺寸	A	B	C	E H10	F	H	Weight kg	Oil kg
140	70	342	160	140	118	572	159	10
160	90	385	180	160	133	655	228	13
180	100	432	200	180	148	732	354	20
200	100	485	225	200	165	810	448	28
225	112	545	250	225	180	907	660	41
250	125	610	280	250	203.5	1015	920	52
280	140	685	315	280	230	1140	1192	86
320	160	770	355	315	252	1285	1711	110
360	-	-	-	-	-	-	-	-
400	-	-	-	-	-	-	-	-
450	-	-	-	-	-	-	-	-

*Flange size for motor mounting(MC)
 马达连接的法兰(MC)尺寸请参照第九页

**Output Flange size (OF)
 出力轴连接的法兰(OF)尺寸请参照第十页

ATTENTION: the weights have to be considered a guideline and may vary according to the reduction ratio, and the accessories required.

The oil quantity has to be considered as reference and is applicable for gearboxes in mounting position W1 and splash lubrication. The quantity varies according to the mounting position and decreases if the lubrication is of the forced type when a pump or a motor-driven pump is used.

请注意:上述重量为参考数据,会因减速比、法兰大小和其他的配备不同而改变。

表列之油量是依据 W1 落地方向飞溅式润滑的齿轮箱为基准,其他落地方向所需之油量可依方向的不同而降低,也可因强制润滑使用泵浦或马达驱动泵浦而减少。

TYPE OF COOLING

冷却方式

马达泵浦和热交换器

有时,产生的大量热量(kcal)必须被消除,因此,必须使用马达泵浦和热交换器。主要增加热交换效率的参数如下:

- 冷却水导入时的水温
- 每分钟的耗水量(升)
- 油泵泵浦每分钟的送油量(升)
- 热交换器的大小

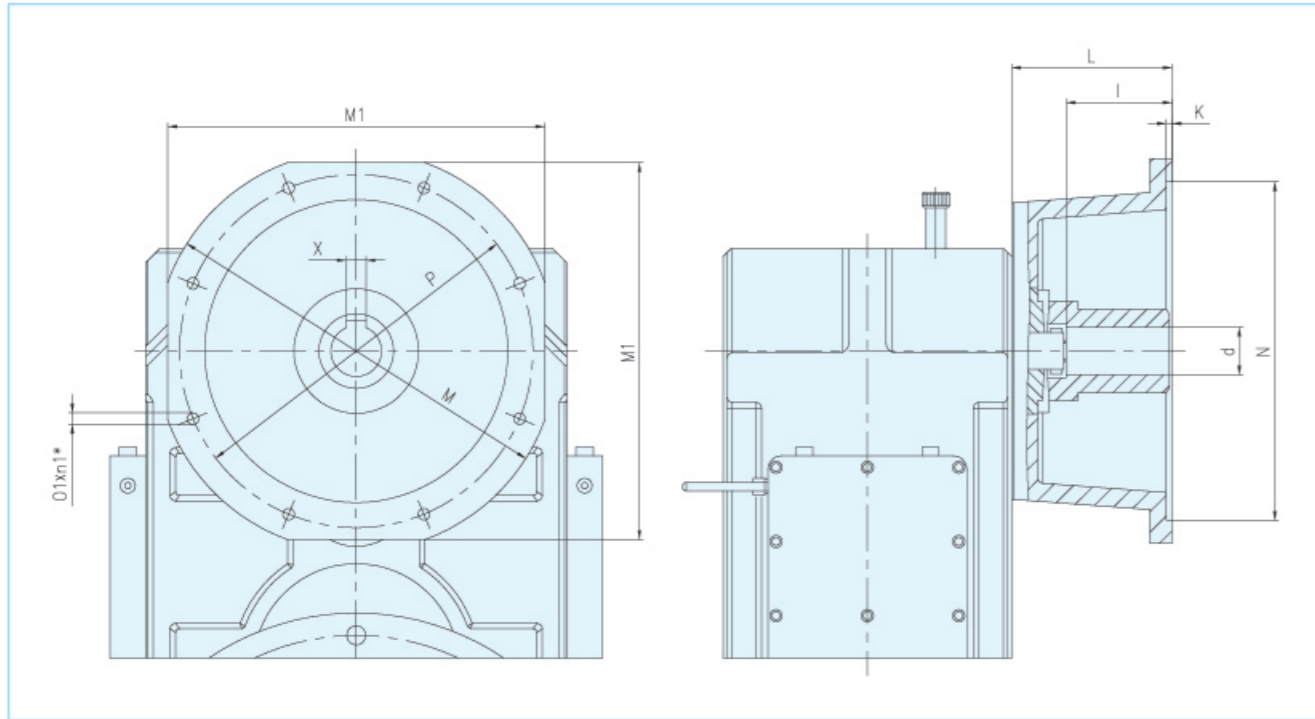
对上列任何一数据做调整即可解决现有的热功率问题。这是非常有效的方式而且可满足大多数不同的需求。

Electric pump and heat exchanger

Sometimes a large heat quantity(kcal) must be dissipated. For this purpose, an electric pump and an external heat-exchanger must be used. The main parameters for increasing the heat dissipation are as follows:

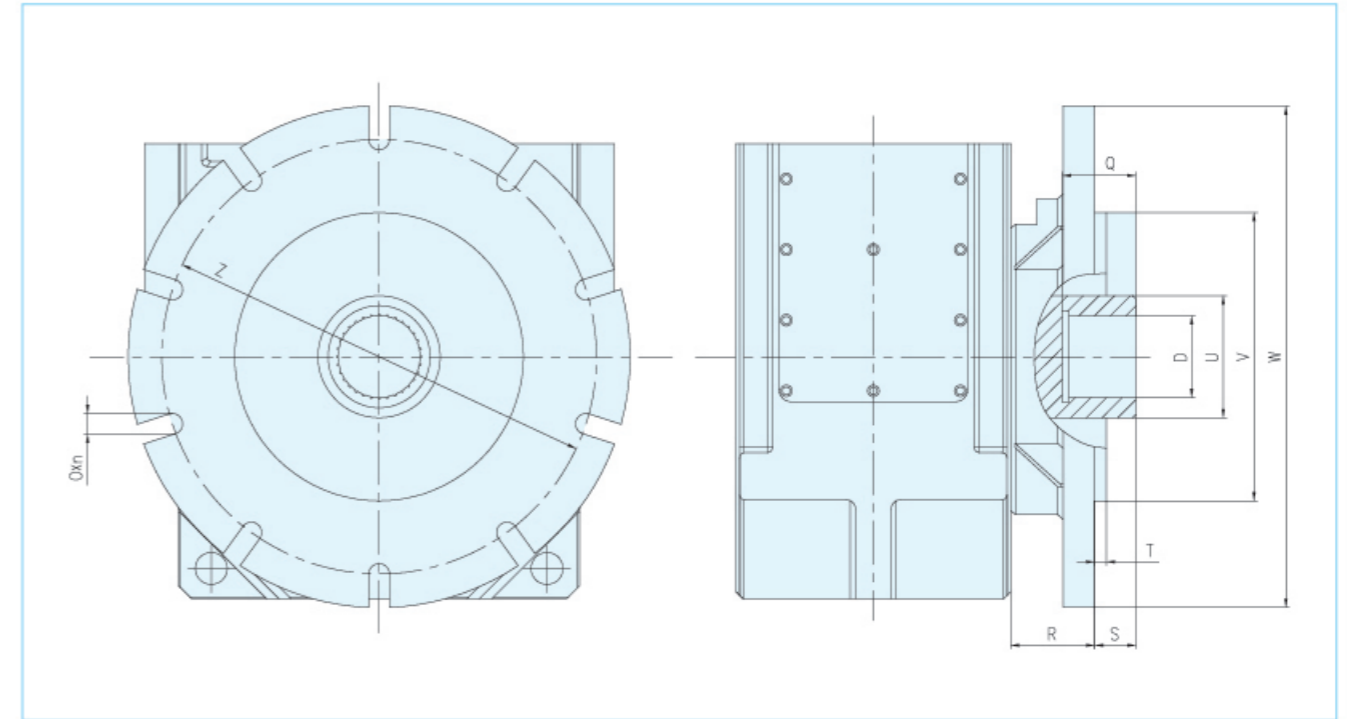
- Water intake temperature
- Water quantity in liters for minute
- Delivery rate in liters for minute of the oil pump
- Size of the heat exchanger

Any intervention on these parameters can resolve any existing thermal problems. This solution is very efficient and satisfies the most different requirements.



Overall Dimensions 外观尺寸

型号	Coupling&Bell 联轴器与连接座						Gearboxes TIN3 TIN-P3 齿轮箱															
	M	M1	P	N	K	Olxn1	d	X	I	L	140	160	180	200	225	250	280	320	360	400	450	
MC2A	250	200	215	180	5	M12x4	28	8	60	-	x	x										
MC2B							32	10	80		x	x										
MC3C	300	260	265	230	5	M12x4	38	10	80	150	x	x										
MC3D							42	12	110		x	x	x									
MC4D							42	12	110		x	x	x	x								
MC4E	350	270	300	250	6	M16x4	48	14	110	160	x	x	x	x								
MC4F							55	16	110			x	x	x								
MC5F							55	16	110			x	x	x	x	x	x	x				
MC5G	400	320	350	300	6	M16x4	60	18	140	180		x	x	x	x	x	x	x				
MC5H							65	18	140			x	x	x	x	x	x	x				
MC6G							60	18	140			x	x	x	x	x	x	x				
MC6H							65	18	140				x	x	x	x	x	x				
MC6I	450	410	400	350	8	M16x8	70	20	140	195				x	x	x	x	x				
MC6							-	-	-						x	x	x	x				
MC7H							65	18	140						x	x	x	x	x	x	x	x
MC7I							70	20	140						x	x	x	x	x	x	x	x
MC7L							75	20	140	220					x	x	x	x	x	x	x	x
MC7							-	-	-							x	x	x	x	x	x	x
MC8M	660	-	600	550	8	M20x8	80	22	170	-												
MC9	800	-	740	680	9	M22x8	-	-	-	-												



Overall Dimensions 外观尺寸

Type	OUTPUT FLANGE "OF" 出力轴法兰 "OF"									
	D DIN 5480	Oxn	Q	R	S	T	U	V h8	W	Z
OF2	32x2x14	11x10	31	60	17	8	60	145	228	204
OF3	35x2x16	11x10	33	60	14	10	65	160	255	225
OF4	40x2x18	11x10	41	60	27	10	65	175	260	232
OF5	47x2x22	13x10	43	70	28	10	70	190	300	266
OF6	55x3x17	13x10	49	70	28	10	80	220	325	290
OF7	65x3x20	15x10	58	70	38	10	90	250	370	330
OF8	75x3x24	17x10	65	70	47	10	100	290	425	380
OF9	85x3x27	19x10	70	80	48	12	120	335	500	440
OF10	100x3x32	22x10	85	90	50	12	140	400	605	540
OF11	110x3x35	26x10	90	100	50	15	170	450	660	600
OF12	150x4x36	32x12	140	180	82	15	210	450	750	650
OF13	160x5x30	-	150	-	50	-	210	-	-	-

MOUNTINGS OUTPUT FLANGE
齿轮箱与出力轴法兰之组合

TIN3/140/...	...-OF5 ...-OF6
TIN3/160/...	...-OF5 ...-OF6 ...-OF7
TIN3/180/...	...-OF6 ...-OF7 ...-OF8
TIN3/200/...	...-OF8 ...-OF9
TIN3/225/...	...-OF8 ...-OF9 ...-OF10
TIN3/250/...	...-OF9 ...-OF10
TIN3/280/...	...-OF10 ...-OF11
TIN3/320/...	...-OF11 ...-OF12
TIN3/360/...	...-OF12 ...-OF13
TIN3/400/...	...
TIN3/450/...	...