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CRD 搪玻璃反应罐驱动系统 CRD Drive System for Glass Lined Reactors

- 带重承载轴承的双端面机械密封
Double mechanical seal with heavy duty carrier bearing
- 更换机械密封无须移动搅拌器和减速机
Replace mechanical seal without removing agitator or reducer
- 增大两个支点的距离使搅拌轴更稳定
More stable agitator shaft with increased distance between two supports

CRD反应罐驱动系统是在欧洲标准的减速机，敞开式机架，重载联轴器和双端面机械密封的基础上开发的。

系列

-KC系列 用于不小于1000L的反应罐，优点在于无须从反应罐内拆除搅拌器和减速机就可以更换机械密封。与中国传统标准系统相比提供了更高的效率和稳定性。

-C系列 用于小于1000L的反应罐，优点在于更紧凑，可以在小反应罐的封头上的各种管口轻松进行管道联接。

-KCG系列和CG系列 用于有GMP要求的反应罐，将敞开式的机架改成不锈钢筒形封闭机架。

在德国DIN标准基础上设计

CRD驱动系统是按德国DIN28162标准设计，并应用于按DIN28136设计的反应罐上。部件引用标准如下：

CRD drive system is developed basing on European standard gear-box, open type rack, heavy duty coupling and double mechanical seal.

Series

-KC series Applicable to reactors with capacity 1000 Liters and above. The advantage is that it allows for quick change of mechanical seal without dismantling the drive or removing agitator from the vessel. This drive system provides far more efficient and stable performance as compared to conventional Chinese standard.

-C series Applicable to reactors below 1000 Liters. The advantage is that it is more compact and allows for easy connection of pipe-work to the various top dish nozzles on small reactors.

-KCG series & CG series Applicable to reactors with GMP requirements. Open-type gear support is changed to enclosed-type cylinder stainless steel gear support.

Design basing on DIN standard

· CRD drive system are designed according to DIN 28162 and are working on all reactors according to DIN 28136.

Part dimensions 部件尺寸	Standard 标准
Drive system flange 驱动系统法兰	DIN 28137 part 2
Agitator shaft end 搅拌轴头	DIN 28159
Mechanical seal 机械密封	DIN 28138 part 2 & 3



机械密封

CRD驱动系统中的机械密封采用带承载轴承的双端面机械密封。这种机械密封不仅用作搅拌轴的动密封，最高压力可达-1至16bar，而且它还为搅拌轴提供支撑。与中国传统的机架设计相比，这种设计将搅拌轴的下支点放低，加大支点间距离，从而提高搅拌稳定性。

机封过渡板

CRD驱动系统中的机械密封是安装在一块磨削过的机封过渡板上的，从而给机械密封提供了一个较高的水平精度。

密封形式

- 双端面液体(油)密封，配封液平衡系统
- 单端面干磨机械密封
- 双端面气体(氮)密封，配气体洁净装置

Mechanical seal

Mechanical seal of CRD Driver system is a double mechanical seal with heavy duty carrier bearing. Such mechanical seal provides motive seal and support for agitator shaft. It can endure -1 to 16 bar of pressure. Comparing to conventional Chinese reducer rack design, our solution moves down lower support of agitator shaft, and increases the distance between two supports, thus providing better stability for the agitator shaft.

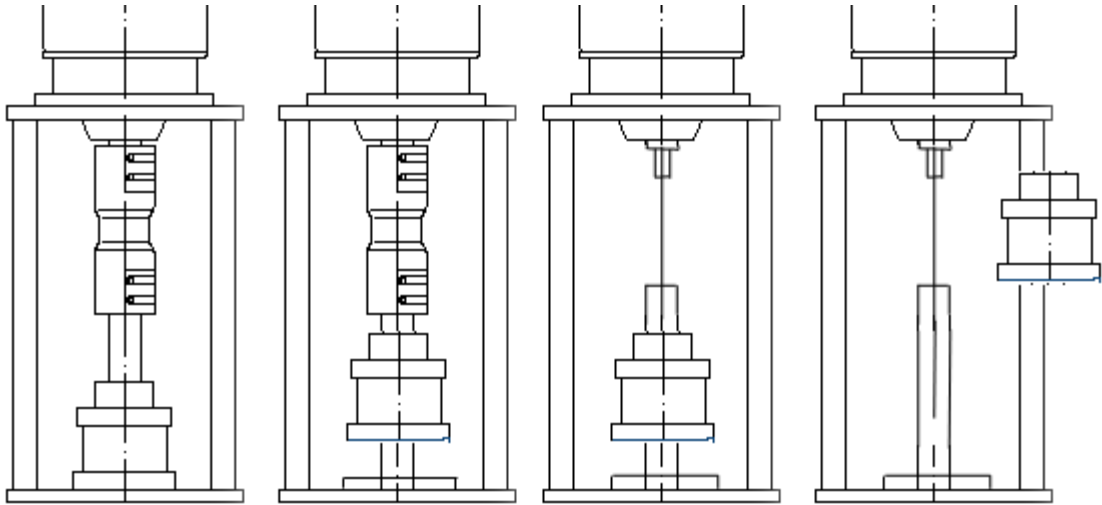
Mechanical seal plate

The mechanical seal of CRD Drive system will be installed on a glass lined plate which is grinded, providing better level precision for the mechanical seal.

Type of seal

- Double wet (oil) mechanical seal with liquid balance system;
- Single dry mechanical seal;
- Double gas (N₂) mechanical seal with gas cleaning device.





机械密封快速更换 Quick Change for Mechanical Seal

STEP 1 将机械密封抬起，在机封下的搅拌轴上安装搅拌器锁紧装置。
Lift up the mechanical seal, install a locking device on agitator shaft under the mechanical seal.

STEP 2 将联轴器拆除，把机械密封从搅拌轴和减速机输出轴之间的空隙中取出。
Remove the coupling, take out the mechanical seal from the space between reducer output shaft and agitator shaft.



标注举例 Labeling:

CRD - KC XX - I - YYY

KC: 系统 System-KC/C/KCG/CG

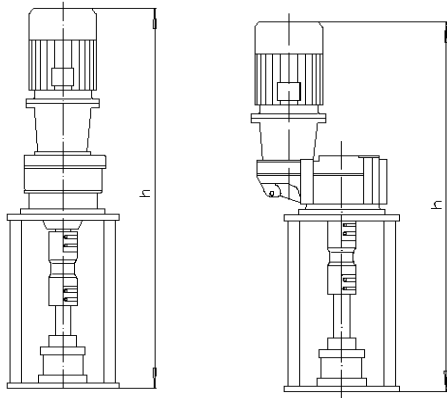
XX: 搅拌器轴径 Shaft diameter

I: 减速机安装形式

Reduce arrangement-I/N/T/P

YYY: 机架型号或减速机号。

Gear support No. or Reducer No.



Type I

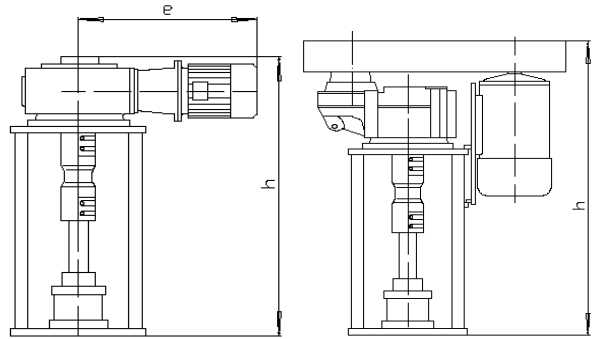
Type N

模块化集成系统

CQD驱动装置是一种模块化集成系统。意谓其有各种各样的齿轮箱和电机布置，以达到您的要求（例如电机直联，皮带轮联接，斜齿轮减速机）。也可按您的要求进行特殊设计。

Modular assembly system

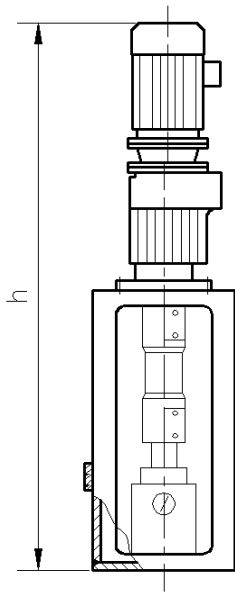
CQD drive devices are integrated modular system, which have different kinds of gear box options and motor arrangements to suit your specific requirements. For example, inline motor, belt drive, helical gear reducer etc. Customized design is also optional.



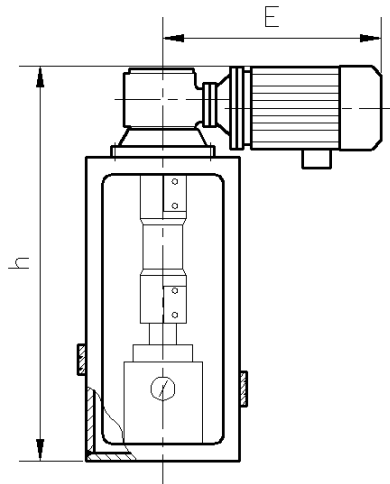
Type T

Type P

搅拌机 公称轴径 Agitator shaft mm	机架型号 Gear Support	电机功率 Motor Power Kw	I型 Type I	N型 Type N	P型 Type P	T型 Type T		总重量 Weight Kg
			h mm				e	
DN60	E300	4	1550	1470	1120	990	750	240
DN80	E400	5.5	1790	1710	1300	1130	830	310
		7.5	1830	1750			870	325
DN100	E500A	11	2090	1980	1480	1260	1070	530
		15	2130	2020			1100	550
DN100	E500B	15	2240	2150	1590	1360	1100	630
DN125	E600A	18.5	2500	2400	1690	/	/	680
		22	2520	2420				700
DN125	E600B	30	2660	2560	1810	/	/	1000
		37	2700	2600	1810	/	/	1050
DN140	E700	37	2860	/	/	/	/	1250
		45	2880	/	/	/	/	1350



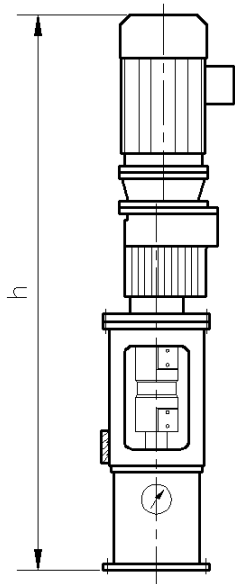
Type I



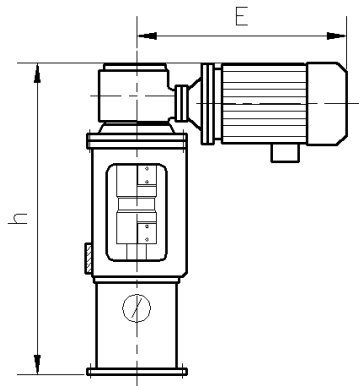
Type T



型号 Specification	电机功率 Motor Power (Kw)	I 型		T 型			适用反应罐
		减速机号 Reducer No.	h	减速机号 Reducer No.	h	E	Applicable Capacity (liters)
			mm		mm		
CRD-KCG60	4	XLR7	1555	XLK6	1050	715	630-1000
CRD-KCG80A	4	XLR8	1750	XLK7	1160	730	1000-2000
CRD-KCG80B	5.5	XLR8	17802	XLK7	1185	815	2000-3000
CRD-KCG100A	7.5	XLR9	1960	XLK8	1310	905	3000-4000
CRD-KCG100B	11	XLR9	2100	XLK8	1340	1040	5000-6300
CRD-KCG100C	15	XLR10	2180	XLK9	1400	1100	6300-8000
CRD-KCG110	15	XLR10	2180	XLK9	1510	1100	10000
CRD-KCG125	18.5	XLR12	2450	XLK10	1690	1330	10000



Type I



Type T



型号 Specification	电机功率 Motor Power (Kw)	I 型		T 型			适用反应罐
		减速机号 Reducer No.	h	减速机号 Reducer No.	h	E	Applicable Capacity (liters)
			mm		mm	mm	
CRD-C40 CRD-CG40	1.1	XLR3	1070	XLK3	675	810	63-160
CRD-C50 CRD-CG50	2.2	XLR4	1230	XLK4	755	910	250-400
CRD-C60 CRD-CG60	3.0	XLR7	1310	XLK6	825	1000	630-1000
CRD-C80 CRD-CG80	4.0	XLR7	1360	XLK6	840	1050	1000-2000