



HDB SERIES OF NEW ARM DISC BRAKE

HDB系列新型臂盘式制动器

致力传动安全 Committed to transmission security



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应用: HDB系列新型臂盘式制动系统, 是我司结合主机行业发展趋势、以工业设计理念打造的一款全新产品。产品构件少、传动效率高, 配套我司自主研发的HED系列阀控电液推动器、工业摩擦材料和BMS-III制动监视系统。产品制动力矩大、响应速度快, 且与主机形成联锁控制, 可对制动状态、摩擦材料磨损等进行实时监测, 安全可靠。适用各种现代的大型专用装卸机械、起重运输机械、冶金设备、矿山设备及工程机械中各种机构的减速和维持(停车)制动, 也可作为特定场合下的紧急制动装置。

Application:

HDB series new-type arm disc braking system is a kind of fully new product created by our company based on the industry design principle and the development trend of main engines. Structures of this braking system is less and the transmission efficiency is higher, which is equipped with HED series valve-control electro-hydraulic thruster, industrial friction lining and BMS-III braking system. This product is featured by big brake torque and quick response speed, it also forms an interlocking control with main engine, which can real time monitor the braking condition and the wear of friction lining, not only safety but also reliable. It is applied for the decelerating and holding (parking) braking of various mechanisms in modern large special loading/unloading machinery, hoisting & transporting machinery, metallurgical equipment, mining equipment and engineering machinery and it is also used as emergency braking device in special occasion.

主要特点 Main feature:

1

- + 集工业设计和先进加工工艺为一体, 产品外形美观, 结构简单, 便于维护。
Integrate with industrial design and advanced machining technology as a whole, beautiful appearance, simple structure and easy maintenance.

2

- + 采用铸造工艺, 整体刚度增加, 传动效率更高。
Adopt casting process, transmission efficiency is higher.

3

- + 配套本公司新型HED推动器, 响应时间更短推动器体积更小、更环保、更节能。
Be equipped with new-type HED thruster of our company, response time is much shorter, volume of thruster is much smaller, much more environmental protection and much more energy saving.

4

- + 无级衬垫磨损自动补偿装置, 可在衬垫磨损的情况下, 保持制动力矩在使用过程中的恒定, 减少经常调整的麻烦。
Stepless pad wear self-compensating device can keep the brake torque be constant during operating and decrease the trouble of frequent adjustment while under the situation of pad wear.

5

- + 防腐型设计, 整机防护等级IP65, 可满足海边盐雾及室内外环境。
Anti-corrosive design, protective class of the whole machine is IP65, which can meet the indoor/outdoor environment and seaside salt spray environment.



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HDB系列 Series

功能介绍 Function introduction:

- 手动释放限位装置，制动器实施手动释放时，将信号反馈给主控以便进行联锁保护。
- 释放(开闸)限位传感器，可实现制动器是否正常释放的信号显示或联锁保护。
- 衬垫磨损极限限位传感器，衬垫磨损到极限时，发出信号以便主机进行联锁保护。
- BMS-III制动器监视系统，可采集夹紧力/制动力、制动温度、推杆行程、磨损极限等传感器参数，经分析诊断后将在役信息、维护信息与剩余寿命等信息通过Profibus或CAN总线上传到上位机显示界面。提示维修人员对产品进行维护和升级。
- *Hand release limit device can feed back the signal to the main control to carry out the interlocking protection while brake applying the hand release.*
- *Release limit sensor can realize whether the brake can display the signals of normal release or carry out the interlocking protection.*
- *Pad wear extreme limit sensor can send signal to make the main machine carry out the interlocking protection while pad being worn to a limit.*
- *BMS-III Brake Monitoring System can collect the data from sensor such as clamping force, braking force, braking temperature, stroke of push rod and wear limit, etc. After being analyzed and diagnosed, the in-service information, maintenance information and remained lifetime can be uploaded to the display interface of upper computer via Profibus or CAN bus. And inform the maintenance personnel to carry out maintenance and upgrading on products.*

使用条件 Operating condition:

● 环境温度: -20°C~50°C

● *Ambient temperature: -20°C~50°C*

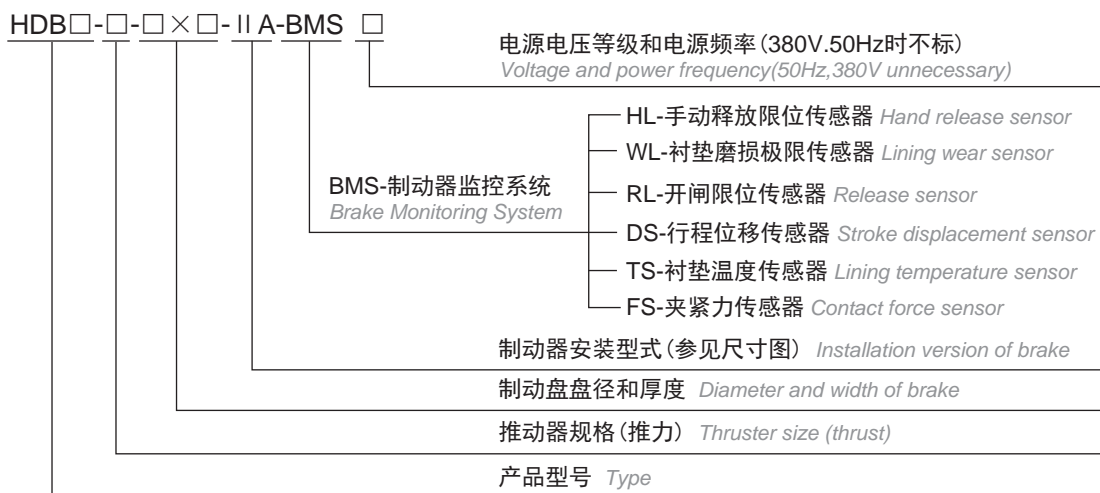
● 相对湿度: ≤100%

● *Relative humidity: ≤100%*

有特殊要求时，在订货时协商确定。

Special requirements can be discussed in order.

订货标记 Order Mark



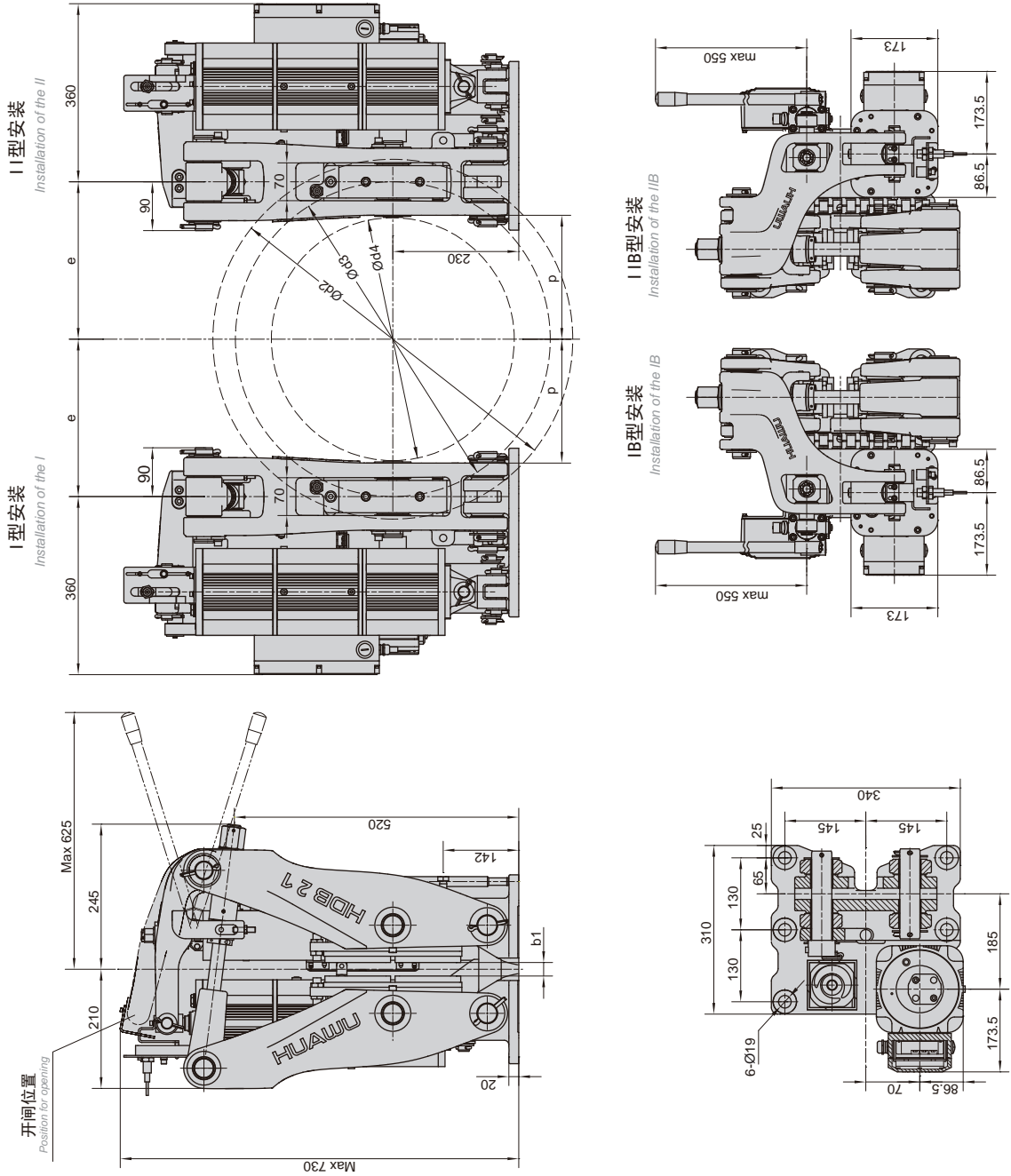
订货示例 Order Example

HDB21-900-710×30-IA-RL.HL
HDB31-8000-800×30-IA-RL.HL

HDB21-2000-500×30-IB-BMS-440V.60Hz
HDB31-5000-900×30-IB-BMS-440V.60Hz

外形及安装尺寸 Outline and installation dimensions of the HDB21

HDB21 系列



HDB21系列盘式制动器尺寸和技术参数 *Dimensions and technical data of HDB21 series disc brake*

制动器重量 (不含推动器) Weight without thruster ca.175 kg			推动器 Thruster				HED600-50	HED900-60	HED2000-60
			功率 Power(W)				0.37	0.45	0.65
			额定电流 Rated current(A)				1	1.2	1.6
			重量 Weight(kg)				17	21	23
			夹紧力 Contact force (N)				6845	10750	20500
制动盘直径d2 Disc diameter	b1	s ¹⁾	d3	d4 ²⁾	e	p	最大制动力矩 Max Brake Torque(Nm) $\mu=0.4$ ³⁾		
355	30	0.7~1.1	275	145	137.5	72.5	755		
400			320	190	160	95	875	1375	2625
450			370	240	185	120	1015	1590	3035
500			420	290	210	145	1150	1805	3445
560			480	350	240	175	1315	2065	3935
630			550	420	275	210	1505	2365	4510
710			630	500	315	250	1725	2710	5165

注：1) s=每侧瓦块退距。

2) d4=允许最大的联轴器外径。

3) 该摩擦系数为配套摩擦材料的平均值。

Note:1) s=Brake clearance.

2) d4=Max. allowable coupling or hub diameter.

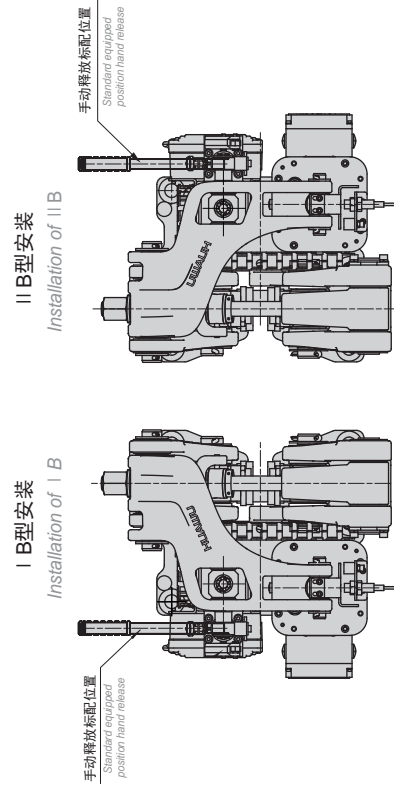
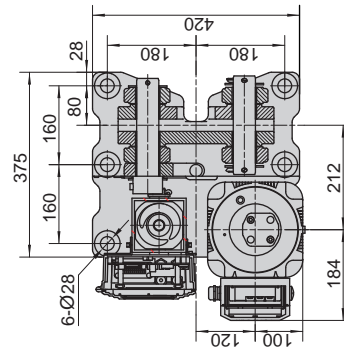
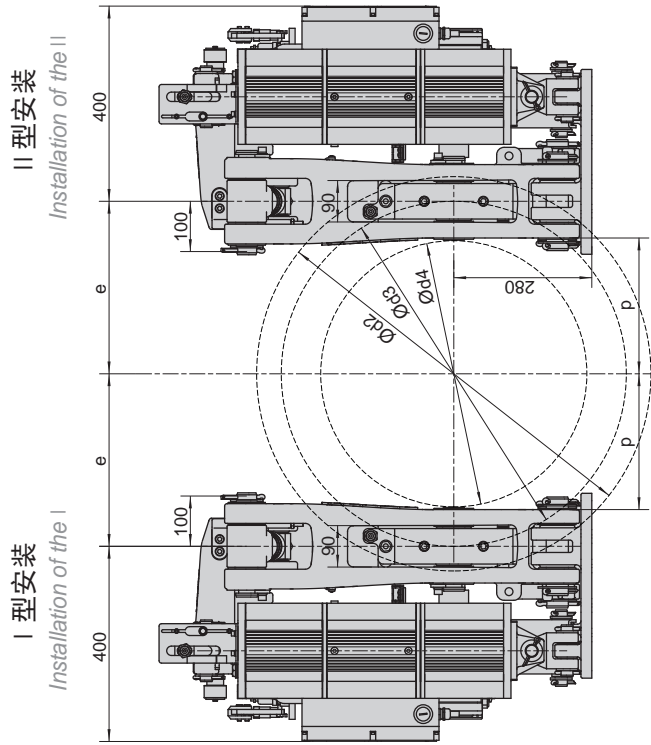
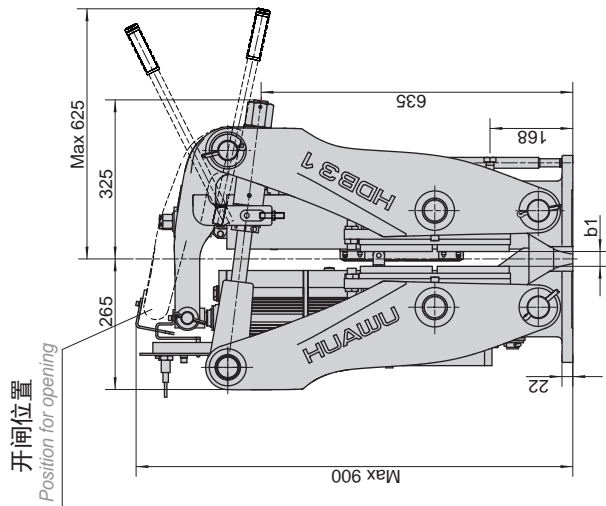
3) Average friction factor of standard brake lining.



HDB31系列 Series
新型臂盘式制动器

HDB31 series of new arm disc brake

V1



HDB31系列盘式制动器尺寸和技术参数 *Dimensions and technical data of HDB31 series disc brake*

制动器重量 (不含推动器) <i>Weight without thruster</i> ca.275 kg			推动器 <i>Thruster</i>				HED3000-80	HED4000-80	HED5000-80	HED7000-80	HED8000-80
			功率 <i>Power(W)</i>				1.1	1.1	1.1	1.5	1.5
			额定电流 <i>Rated current(A)</i>				2.6	2.6	2.6	3.5	3.5
			重量 <i>Weight(kg)</i>				42	42	56	56	56
			夹紧力 <i>Contact force (N)</i>				22500	35000	50000	65000	80000
制动盘直径d2 <i>Disc diameter</i>	b1	s ¹⁾	d3	d4 ²⁾	e	p	最大制动力矩 <i>Max Brake Torque(Nm)μ=0.4³⁾</i>				
450	30	0.7~1.1	350	175	175	95	3150	4900	7000		
500			400	225	200	120	3600	5600	8000		
560			460	285	230	150	4140	6440	9200		
630			530	355	265	185	4770	7120	10600		
710			610	435	305	225	5500	8540	12200	15800	19500
800			700	525	350	270	6300	9800	14000	18200	22400
900			800	625	400	320			16000	20800	25600
1000			900	725	450	370			18000	23400	28800
1100			1000	825	500	420				26000	32000

注：1) s=每侧瓦块退距；2) d4=允许最大的连轴器外径；3) 该摩擦系数为配套摩擦材料的平均值。

Note:1) s=Brake clearance; 2) d4=Max. allowable coupling or hub diameter; 3) Average friction factor of standard brake lining.

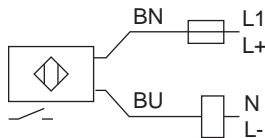
与限位传感器有关的参数 *Parameters related to limit sensor:*

单个制动器配一个开闸限位传感器，两个磨损限位传感器和一个手动释放传感器，限位传感器需自行引入主机控制；

开闸限位传感器：接线如图所示，自带2m导线，触点容量为20-250V AC/400mA、10-300V DC/300mA；（注：BN为棕色，BU为蓝色）

Single brake is equipped with one release limit sensor, two wear limit sensor and one hand release sensor, limit sensor is required to introduce into the main control by itself;

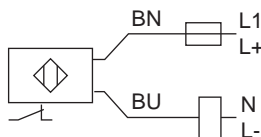
Release limit sensor: wiring is shown as this figure, self-provide 2m lead, contact capacity is 20-250V AC/400mA and 10-300V DC/300mA; (note: BN is brown, BU is blue)



衬垫磨损限位传感器和手动释放传感器：接线如图所示，自带2m导线，触点容量为20-250V AC/400mA、10-300V DC/300mA。

（注：BN为棕色，BU为蓝色）

Pad wear limit sensor and hand release sensor: wiring is shown as this figure, self-provide 2m lead, contact capacity is 20-250V AC/400mA and 10-300V DC/300mA; (note: BN is brown, BU is blue)



HED系列阀控电液推动器及BMS接线图等电气资料请参考其样本。

Electric information like HED series valve control electric hydraulic thruster and BMS wiring diagram shall refer to their corresponding sample books.