MNS

低压抽出式成套开关设备
LV withdrawable switchgear

概述 General

MNS 低压抽出式成套开关设备（以下简称为装置）是参考瑞士 ABB 公司 MNS 系列低压开关柜并加以综合改进后用标准模件生产制造的产品。本装置适用于交流50Hz，额定工作电压660V及以下的系统。作为各种发电、输电、配电、电能转换和电能消耗设备的控制设备，能广泛应用于各工矿企业、大楼宾馆、市政建设等低压配电系统中。除一般陆用外，经过特殊处理后，还可以用于海上石油钻采平台和核电站中。
本装置符合国际标准 IEC439-1，国家标准 GB7251.1。
MNS LV withdrawable switchgear (hereinafter referred to as device) is manufactured by standard module through consulting MNS series low voltage switch cabinet of Switzerland ABB Company, and synthetically improved. The device is applicable to the system with AC 50Hz, rated working voltage 660V and below, used as control device for various power generation, transmission, distribution, power transfer and power consumption device. It is widely used in low voltage distribution system of various mining enterprise, tall building and hotel, municipal construction etc. Besides the general land use, after special disposal, it also can be used for marine petrol drill taken platform and nuclear power station.
The device accords with international standard IEC439-1 and national standard GB7251.1.

特点 Characteristics

1. 设计紧凑：以较小的空间能容纳较多的功能单元。
2. 结构通用性强，组装灵活，以 25mm 为模数的 C 型型材满足各种结构型式、防护等级、使用环境的要求。
3. 采用标准模块设计：分别可组成保护、操作、转换、控制调节、测定、指示等标准单元。用户可根据需要任意选用组装，以 200 余种零件可以组成不同方案的柜架结构和抽屉单元。
4. 安装性好：大量采用高强度阻燃型工程塑料组件，有效加强防护安全性能。
5. 技术性能高：主要参数达到国内先进水平。

1. Compact design: Contain more function units with less space.
2. Strong versatility for structure, flexible assembly. C type bar section of 25mm modulus can meet the demands of various structure and type, protection grade and operating environment.
3. Adopt standard module design, can be combined into protection, operation, transfer, control, regulation, measurement, indication etc such standard units. User can choose assembly according to requirement at will. Cabinet structure and drawer unit can be formed with more than 200 components.
4. Fine security: Adopt high strength antiflaming type engineering plastic pack in large quantity to effectively enhance the protective safety performance.
5. High technical performance: Main parameters reach the advanced level at home.

主要技术参数 Main technical parameters

额定工作电压(V) Rated working voltage	额定绝缘电压(V) Rated insulation voltage	额定工作电流(A) Rated working current		额定短时耐受电流有效值(IS)/ 峰值(kA) Virtual value (IS)/peak value (kA) of rated short time withstand current		外壳防护等级 IP30、IP40 Protection grade of shell
		水平母线 Horizontal bus bar	垂直母线 Vertical bus bar	水平母线 Horizontal bus bar	垂直母线 Vertical bus bar	外形尺寸高 × 宽 × 深 Outline dimension H × W × D
380、660	660、1000	630-5000	800-2000	50-100/ 105-250	60/130 -150	2200 × 600(800、1000) × 800(1000)

垂直母线额定工作电流:
单面或双面操作的抽出式 MCC 为 800A，柜深 1000mm 单面操作的 MCC 为 800~2000A。
Rated working current of vertical bus bar:
Draw-out type MCC with single side or double sides operation: 800A. MCC with 1000mm depth and single operation: 800~2000A.

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正常使用环境条件 Conditions for normal operating environment

1. 周围空气温度不高于+40℃，不低于-5℃，并且24h内其均温度不高于+35℃。
2. 大气条件：空气清洁，相对湿度在最高温度+40℃时不超过50%，在较低温度时允许有较高的相对湿度，例如+20℃时为90%，但应考虑到温度变化，有可能会偶然产生适度的凝露。
3. 海拔高度不超过2000m。
4. 本装置适应于以下温度的运输和储存过程：-25℃至+55℃的范围之间，在短时间内（不超过24h）可达+70℃，在这些极限温度下装置不应遭到任何不可恢复的损伤，而且在正常的条件下应能正常工作。
5. 如果上述使用条件不能满足时，应由用户和制造厂协商解决。
6. 当本装置使用于海上石油钻采平台和核电站时，应另签订技术协议。

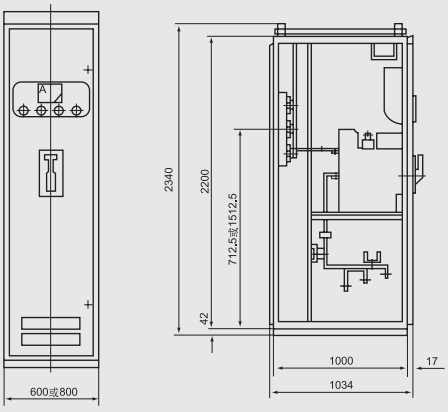
1. Ambient air temperature: -5℃~+40℃ and the average temperature should not exceed +35℃ in 24h.
2. Air condition: With clean air. Relative humidity should not exceed 50% at +40℃. Higher relative humidity is allowed at lower temperature. Ex. 90% at +20℃. But in view of the temperature change, it is possible that moderate dews will produce casually.
3. Altitude above sea level should not exceed 2000M.
4. The device is suitable to the transportation and store with following temperature :-25℃ ~+55℃, in short time (within 24h) it reaches +70℃. Under the limiting temperature, device should not suffer damage that can't recover, and it can works normally under normal conditions.
5. If the above operating conditions not meet user's demand. Consult with manufactory.
6. Technical agreement should be signed additionally if the device is used for marine petrol drill taken platform and nuclear power station.

结构特征 Structure characteristics

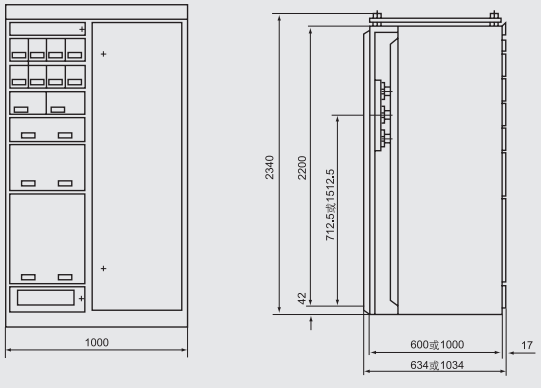
装置的基本柜架为组合式装配结构，柜架的基本结构件都经过镀锌处理，通过自攻锁紧螺钉或8.8级方角螺丝紧固互相连接成基本柜架，再按方案变化需要，加上相应的门、封板、隔板、安装支架，以及母线、功能单元等零部件，组装成一台完整的装置。装置内零部件尺寸，隔室尺寸实行模数化（模数单位e=25mm）。

The basic cabinet of device is combined assembly structure. Basic structural pieces of cabinet is zinc plated, connected and firmed into basic bracket through self tapping locking screw or 8.8 grade square corner screw. According to the change demand of project, additionally add corresponding gate, closing board, baffle plate, installation support and the components of bus bar, function units, to assemble a complete set of device. Perform modulus to interior component and compartment size (Modulus unit e=25mm).

内部结构 Interior structure

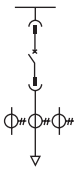
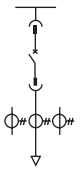
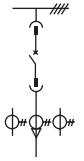


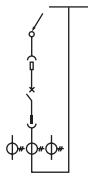
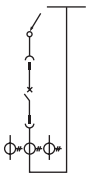
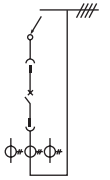
PC 柜
PC cabinet

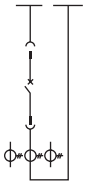
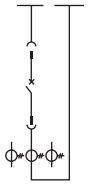
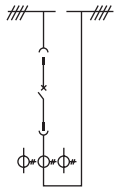


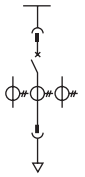
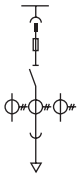
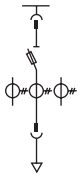
抽出式 MCC 柜（单面操作）
Draw-out type MCC cabinet (Single side operation)

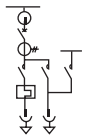
一次回路方案图 Primary circuit scheme diagram

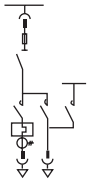
方案编号 Scheme number	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
一次方案 Primary scheme																				
柜宽(mm) Cabinet width	400	600	800	1000	600	800	1000	600	800	1000	600	800	1000	600	800	1000	600	800	1000	
设备室高 Equipment chamber height	72E	72E	72E	72E	72E	72E	72E	72E			72E			72E			72E			
最大工作电流(A) Max. working current	1500	1500	2300	3150	1500	3200	4000	1600	3200	4000	2000	3200	4000	2000	3000	3600	1500	3200	4000	
主要设备 Main equipment	ME1605 F1-1600 M16 BHG-60II	Me630~ ME637~ ME1605 BHG-100	Me2000~ ME2505 ME2505 BHG-100	ME3200~ ME3205 BHG-120II	AH-6B~ AH-16B BHG-100	AH-20CH~ AH30CH BHG-100	AH-40C BHG-120II	M08~ M16 BHG-100	M20~ M32 BHG-100	M40 BHG-120II	F1-1250 ~F1-2000 BHG-100	F2-2000 ~F4-3200 BHG-100	F5-4000 BHG-120	F1-1250 ~F1-2000 4 极开关 BHG-100	F2-2000 F2-3000 F3-3200 4 极开关	F4-3200 F4-3600 4 极开关 BHG-120II	AH6B AH16B 4 极开关 BHG-60II	M28 M32 4 极开关 BHG-100	M40 4 极开关 BHG-120II	
用途 Purpose	电缆进线或出线 Cable incoming or outgoing																			

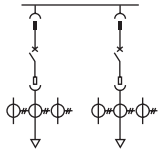
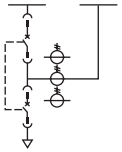
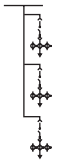
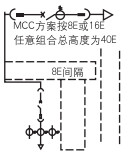
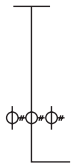
方案编号 Scheme number	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
一次方案 Primary scheme																				
柜宽(mm) Cabinet width	400/600	800	1000	400/600	800	1000	600	800	1000		600	800	1000	600	800	1000	600	800	1000	
设备室高 Equipment chamber height	72E			72E			72E				72E			72E			72E			
最大工作电流(A) Max. working current	1500	2300	3150	1500	3000	4000	1600	3200	4000		2000	3200	4000	2000	3200	3600		3200	4000	
主要设备 Main equipment	ME630~ ME-1605 M16 BHG-60II	ME2000~ ME2505~ BHG-100	ME3200 ~3205 BHG-120	AH6B~ AH-16B BHG-100	AH20CH~ AH-30CH BHG-120III	AH40CH BHG-120II	M08~ M16 BHG-100	M20~ M32 BHG-120II	M40 BHG-120II		F1-1250 ~F1-2000 BHG-100	F2-2000 ~F4-3200 BHG-100	F5-4000 BHG-120	F1-1250 ~F1-2000 4 极开关 BHG-100	F2-2000 F2-3000 F3-3200 4 极开关	F4-3200 F4-3600 4 极开关 BHG-120II		M08~ M32 4 极开关 BHG-120II	M40 4 极开关 BHG-120	
用途 Purpose	柜顶进出线 Incoming/outgoing line of cabinet top																			

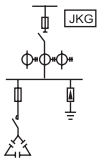
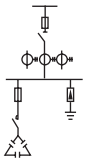
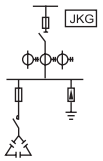
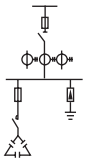
方案编号 Scheme number	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
一次方案 Primary scheme																				
柜宽(mm) Cabinet width	600	800	1000	600	800	1000	600	800	1000		600	800	1000	600	800	1000	600	800	1000	
设备室高 Equipment chamber height	72E			72E			72E				72E			72E			72E			
最大工作电流(A) Max. working current	1500	2300	3150	1600	3200	4000	1600	3200	4000		1600	3200	4000	1600	3000	3600		3200	4000	
主要设备 Main equipment	ME630~ ME1605 BHG-100	ME2000~ ME2505 BHG-100	ME3200 ME3205 BHG-120	AH-6B~ AH-16B BHG-100	AH-20CH~ AH-30CH BHG-100	AH-40C BHG-120II	M08~ M32 BHG-120	M20~ M16 BHG-100	M40 BHG-120II		F1-1250 ~F1-2000 BHG-100	F2-2000 ~F4-3200 BHG-100	F5-4000 BHG-120	F1-1250 ~F1-1600 4 极开关 BHG-100	F2-2000~ F2-3000 4 极开关 BHG-120	F4-3200 F4-3600 4 极开关 BHG-120		M28 至 M32 4 极开关 BHG-120II	M40 4 极开关 BHG-120	
用途 Purpose	母联 Bus connection																			

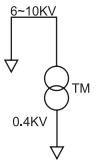
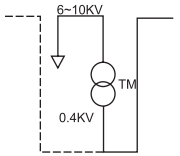
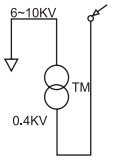
方案编号 Scheme number	61	62	63	64	65	66	67	68	69	70	71	72	73	74
一次方案 Primary scheme														
柜宽(mm) Cabinet width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
设备室高 Equipment chamber height	8E/4	8E/2	8E	16E	24E	8E/4	8E/2	8E	16E	24E	8E	16E	8E	8E
最大工作电流(A) Max. working current	30	50	100	300	600	30	50	200	300	500	100	300	100	200
主要设备 Main equipment	S503-LV10-40 或 NC100L-BHG-30	S503-LV10-GV63 或 NC100L-BHG-30	TG30B TG100B BHG-30	TG225B TG400B BHG-40	TG600B BHG-40	NT-00 KG64B 或 Hh17	NT-00 KG60B 或 HH17 BHG-30	NT-00-1 SMP60-1 BHG-40	NT-2 SMP-2 BH-40	NT-3 SMP-3 BH-60	QSA-63 QSA-125 BHG-40	QSA-250 QSA-400 BHG-60	DCHR1-00 125A BHG-40	DCHR1-1 250A BHG-40
用途 Purpose	馈线 Feed line													

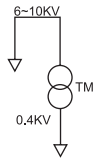
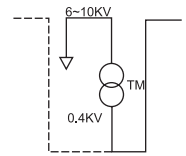
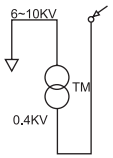
方案编号 Scheme number	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94
一次方案 Primary scheme																				
柜宽(mm) Cabinet width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
设备窒高 Equipment chamber height	16E	16E	8E/4	8E/2	8E/4	8E/2	8E/4	8E/2	8E	16E	24E	8E/2	8E	16E	24E	8E/2	8E	16E	24E	
最大工作电流(A) Max. working current	300	500	7.5	15	7.5	15	7.5	15	45	75	160	15	37	65	110	7.5	15	55	110	
主要设备 Main equipment	DCHR1-2 400A BHG-60	DCHR1-630A BHG-60	S503 B16-B25 BHG-30	S503 B37-B45 BHG-30	NC100L B16-B25 BHG-30	NC100L B37-B45 BHG-30	S503 或NC100L B16-B25 T25-TSA45 BHG-30	S503 或NC100L B37-B45 T25-TSA45 BHG-30	TG-100B B65-B105 T105 BHG-40	TG-225B B65-B105 T107~250 BHG-40	TG-400 EH370 BHG-40	S503 B16-45 T16-TSA45 BHG-30	TG-100B B65-85 T105 BHG-40	TG-225B B105-170 T105-170	TG400B B250 T250 BHG-40	S503 B16 T16 BHG-30	TG-100B B37 TSA45 BHG-30	TG-225B B45~85 T105 BHG-40	TG225 B105~170 T170 BHG-40	
用途 Purpose	馈线 Feed line		不可逆 Irreversible				不可逆 Irreversible					可逆 Reversible		BHG-40		Y/ △				

方案编号 Scheme number	95	96	97	98	99	100	101	102	103	104	105	106	107
一次方案 Primary scheme													
柜宽(mm) Cabinet width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
设备窒高 Equipment chamber height	8E/4	8E/2	16E	24E	24E	8E/2	8E	24E	24E	8E/2	8E	16E	16E
最大工作电流(A) Max. working current	7.5	22	55	110	160	15	30	65	100	7.5	15	55	90
主要设备 Main equipment	NT-00 KG64B B16 T16 或 HH17 BHG30	NT-00 KG64B B25~45 T25~45 或 HH17 BHG30	QSA-250 B65~170 T105~170 BHG-40	QSA-400 B170~250 T170~250 BHG-40	QSA-400 B250~370 T250~370 BHG-40	NT-00 KG64B B16~45 T16~45 或 HH17 BHG30	QSA-125 B65~85 T105 BHG-30	QSA-250 B105~170 T105~170 BHG-40	NT-2 B250 T250 BHG-40	NT-00 B16 T16 BHG-30	QSA-125 B25~45 TSA45 BHG-30	QSA-160 B45~B85 T105 BHG-40	QSA-400 B105~170 T105~170 BHG-40
用途 Purpose	不可逆 Irreversible					可逆 Reversible				Y/ △			

方案编号 Scheme number	108	109	110	111	112	113	114	115	116			117	118	119	120	121	122	123
一次方案 Primary scheme																		
柜宽(mm) Cabinet width	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	400	600	400	600	600	800	600
设备室高 Equipment chamber height	72E	72E	72E	72E	72E	72E	72E	72E	32E PC	间隔 8E	32EMCC	72E	72E	72E	72E	72E	7E	16E
最大工作电流(A) Max. working current	1600 × 2	1600 × 2	1600 × 2	1600 × 2	1600 × 2	630 × 3	630 × 3	630 × 3	630			2500	4000	2000	4000			
主要设备 Main equipment	ME630~ ME1605 (3P~4P) BHG-80	M08~ M10 (3P~4P) BHG-80	$F_1$1250~ $F_1$1600 (3P~4P) BHG-80	M08~ M1600 (3P~4P) BHG-80	$F_1$1250~ $F_1$1600 (3P~4P) BHG-80	AH630 BHG-80	M08 BHG-80	$F_1$1250 BHG-80	AH630 或 M08 或 $F_1$1250 BHG-80		按高度 8E 或 165Emcc 方案选型组合	BHG-100 BHG-120 或用户自备				DS862-2 DX962-2 DT862-2 (最多安装 8只)	DS862-2 DX962-2 DT862-2 (最多安装 12只)	DT862-3 只
用途 Purpose	电缆进线或出线 Cable incoming or outgoing								馈电 Feeding			计量 Metering		母联 Bus connection		计量		

方案编号 Scheme number	124	125	126	127	128	129	130	131	
一次方案 Primary scheme									
柜宽(mm) Cabinet width	600	800	600	800	600+200	600+400	600+200	600+400	
设备室高 Equipment chamber height	72E	72E	72E	72E	72E	72E			
最大工作电流(A) Max. working current	(8 × 16)128	(12 × 16)192	(8 × 16)128	(12 × 16)192	(8 × 16)128	(16 × 16)256	(8 × 16)128	(16 × 16)256	
主要设备 Main equipment	QSA-400 NT 或 RT20 B30C BHG-40 BCMJ3 (10~16KVAR)	QSA-400 NT 或 RT20 B30C BCMJ3 (10~16KVAR)	QSA-400 NT 或 RT20 B30C BCMJ3 (10~16KVAR)	QSA-400 NT 或 RT20 B30C BHG-40 BCMJ3 (10~16KVAR)	DCHR1-2 NT 或 RT20 B30C BHG-40 BCMJ3 (10~16KVAR)	DCHR1-3 NT 或 RT20 B30C BHG-40 BCMJ3 (10~16KVAR)	DCHR5-2 NT 或 RT20 B30C BCMJ3(10~16) BHG-40	DCHR1-3 NT 或 RT20 B30C BCMJ3(10~16) BHG-40	
用途 Purpose	自动控制补偿柜 automatic control compensation cabinet		补偿柜 Compensation cabinet		自动控制补偿柜 automatic control compensation cabinet		补偿柜 Compensation cabinet		

方案编号 Scheme number	132	133	134	135	136	137	138	139	140	141	142	143
一次方案 Primary scheme												
装置容量(KVA) Device capacitance	200~500	630~800	1000~1600	2000~2500	200~500	630~800	1000~1600	2000~2500	200~500	630~800	1000~1600	2000~2500
外形尺寸(高×深×宽) Outline dimension(height × depth × width)	2200 × 1800 × 1200	2200 × 2200 × 1400	2400 × 2400 × 1600	2600 × 2600 × 1600	2200 × 1800 × 1200	2200 × 2200 × 1400	2400 × 2400 × 1600	2600 × 2600 × 1600	2200 × 1800 × 1200	2200 × 2200 × 1400	2400 × 2400 × 1600	2600 × 2600 × 1600
主要设备 Main equipment (电力变压器) Electric power transformer	SCB-200/10 SCB-250/10 SCB-315/10 SCB-400/10 SCB-500/10	SCB-630/10 SCB-800/10	SCB-1000/10 SCB-1250/10 SCB-1600/10	SCB-2000/10 SCB-2500/10	SCB-200/10 SCB-250/10 SCB-300/10 SCB-400/10 SCB-500/10	SCB-630/10 SCB-800/10	SCB-1000/10 SCB-1250/10 SCB-1600/10	SCB-2000/10 SCB-2500/10	SCB-200/10 SCB-250/10 SCB-300/10 SCB-400/10 SCB-500/10	SCB-630/10 SCB-800/10	SCB-1000/10 SCB-1250/10 SCB-1600/10	SCB-2000/10 SCB-2500/10
用途 Purpose	电缆下进，下出 Cable lower incoming, lower outgoing				电缆下进，母线侧出 Cable lower incoming, bus side outgoing				电缆下进，母排上出 able lower incoming, busbar upper outgoing			

方案编号 Scheme number	144	145	146	147	148	149	150	151	152	153	154	155
一次方案 Primary scheme												
装置容量(KVA) Device capacitance	200~500	630~800	1000~1600	2000~2500	200~500	630~800	1000~1600	2000~2500	200~500	630~800	1000~1600	2000~2500
外形尺寸(高×深×宽) Outline dimension(height × depth × width)	2200 × 1800 × 1200	2200 × 2200 × 1400	2400 × 2400 × 1600	2600 × 2600 × 1600	2200 × 1800 × 1200	2200 × 2200 × 1400	2400 × 2400 × 1600	2600 × 2600 × 1600	2200 × 1800 × 1200	2200 × 2200 × 1400	2400 × 2400 × 1600	2600 × 2600 × 1600
主要设备 Main equipment (电力变压器) Electric power transformer	SCB-200/10 SCB-250/10 SCB-315/10 SCB-400/10 SCB-500/10	SCB-630/10 SCB-800/10	SCB-1000/10 SCB-1250/10 SCB-1600/10	SCB-2000/10 SCB-2500/10	SCB-200/10 SCB-250/10 SCB-300/10 SCB-400/10 SCB-500/10	SCB-630/10 SCB-800/10	SCB-1000/10 SCB-1250/10 SCB-1600/10	SCB-2000/10 SCB-2500/10	SCB-200/10 SCB-250/10 SCB-300/10 SCB-400/10 SCB-500/10	SCB-630/10 SCB-800/10	SCB-1000/10 SCB-1250/10 SCB-1600/10	SCB-2000/10 SCB-2500/10
用途 Purpose	母排侧进，电缆下出 busbar side incoming, cable lower outgoing				母线侧出，侧出 side outgoing, side outgoing				母线侧进，上出 Bus side incoming, upper outgoing			

说明 Instruction:

1.变压器及进出线方式可根据需要另行选择。The transformer and its outgoing and incoming line can be chosen according to requirement.

2.还有载调压装置时，外形尺寸放宽 500mm 或加深 400mm，具体与制造厂协商 When on-load voltage tapping is installed, the width of outline dimension should be widened by 500mm or deepened by 400mm, please negotiate with factory for details. 。

3.产品说明及图例供参考，随着时间的推移，有可能不断修改，不再另行通知，请您与我公司联系。The instruction and diagram reference will be updated successively as the times goes by, and we will not notice separately, so please contact our company.