it's cool to be safe

explosion proof solution for the global market

Supermec

explosion proof electrical equipment

CSE P

The CSE P enclosures are normally used in the chemical and petrochemical plants, off-shore platforms, refineries and any other industry where hazardous atmospheres (gas and combustible dust) are potentially present.
The CSE P enclosures range has been designed to meet the main requirements of power distribution, monitoring and signaling, and other electrical functions inside the hazardous area of the plant

Function

The CSE P enclosures are normally used for the following main applications:

- control stations
- circuit breakers
- terminal boxes
- emergency call units
- switches and changeover switches
- electrical housing
- instrument housings
- lighting controls
- battery container

The CSE-P A enclosures are available in different sizes so to create a large and modular range with different heights. The CSE-P enclosures, joined together through dedicated flanges, can become a large panel, maintaining the original IP protection.

Starting height 90 mm, the CSE-P series can be equipped with operators (pilot lights, push buttons, switches, etc.) on cover.

Construction

The materials used to manufacture the CSE P series have been studied to grant the maximum protection against the highly corrosive agents present in these industries:

- body and cover of glass-reinforced polyester (GRP) black coloured to provide the maximum UV protection and loaded with carbon, to eliminate the risk of ignition sources through static induced sparking resistivity.
- for special purposes there are available, on request, other colours : grey, yellow, red and light blue
- antiloosening screws on cover of stainless steel AISI 316
- gasket on cover of silicone
- internal fixing screws of stainless steel

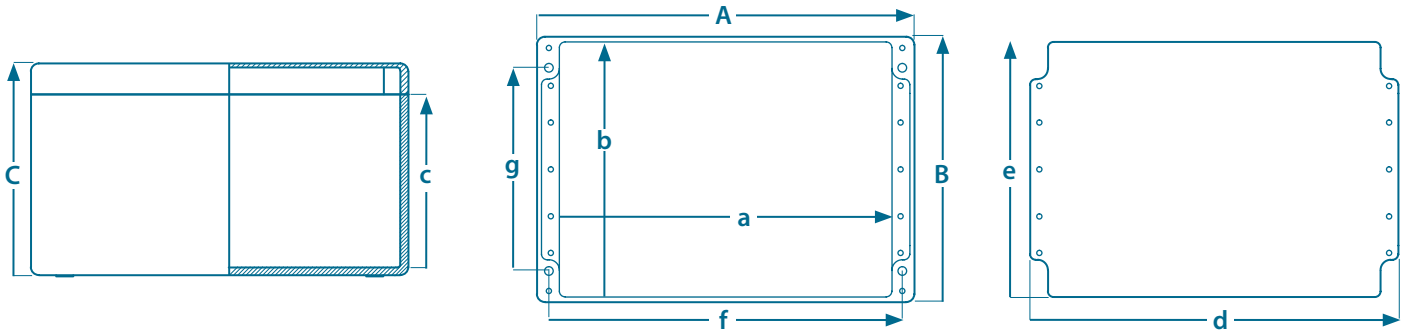
Accessories

The CSE P enclosures can be completed with the following accessories:

- internal earth continuity plate of galvanized steel, copper or brass
- internal mounting plate of galvanized steel or stainless steel
- mounting brackets in stainless steel
- internal and external earth screws of stainless steel AISI 316
- external hinges of thermoplastic material

Protection

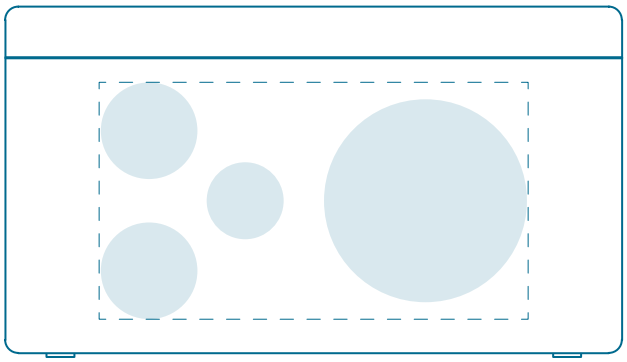
certificate number:	IMQ 14 ATEX 003 X
marking:	Ex II 2GD Ex e ia IIC T6 Gb Ex tb IIIC T85°C Db (terminal boxes)
	Ex II 2GD Ex d e mb IIC T6 Gb Ex tb IIIC T85°C Db (control stations)
ambient temperature:	-40°C +60°C
degree of protection:	IP65/66
conformity:	Directive ATEX 94/9/EC
standards:	EN60079-0 / EN60079-1 / EN60079-7 / EN60079-11 / EN 60079-18 / EN60079-31
category:	suitable for Zone 1 -21 (gas) and Zone 2- 22 (dust)

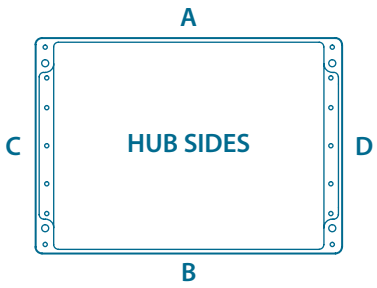


Code	overall dimensions			internal dimensions			mounting plate		fixing dimensions		
	A	B	C	a	b	c	d	e	f	g	screw
CSE 080705P	80	75	55	73	68	47	68	64	68	45	
CSE 110705P	110	75	55	103	68	47	98	64	98	45	
CSE 160705P	160	75	55	153	68	47	148	64	148	45	
CSE 190705P	190	75	55	183	68	47	178	64	178	45	
CSE 080707P	80	75	75	73	68	67	68	64	68	45	M4
CSE 121209P	122	120	90	115	113	79	108	106	106	82	
CSE 221209P	220	120	90	211	111	79	206	106	204	82	
CSE 161609P	160	160	90	148	148	79	144	140	140	110	
CSE 261609P	260	160	90	248	148	79	244	140	240	110	
CSE 361609P	360	160	90	348	148	79	344	140	340	110	
CSE 202512P	200	250	120	188	238	109	185	232	180	200	
CSE 252512P	255	250	120	242	238	109	240	232	235	200	
CSE 402512P	400	250	120	388	238	109	385	232	380	200	
CSE 404012P	400	405	120	388	393	109	383	386	380	355	M6
CSE 602512P	600	250	120	588	238	109	585	232	580	200	
CSE 252516P	255	250	160	242	238	149	240	232	235	200	
CSE 402516P	400	250	160	388	238	149	385	232	380	200	
CSE 602516P	600	250	160	588	238	149	585	232	580	200	

Note:

The CSE P enclosures have a degree of protection IP66 with the sole exception of model CSE 190705P provided of degree of protection IP65.





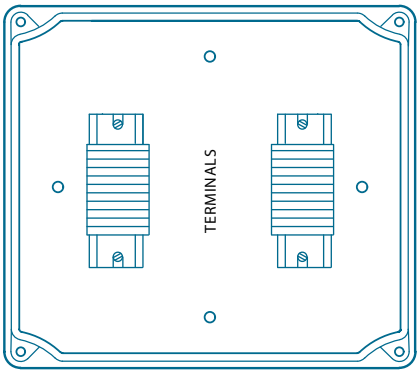
Code	maximum number of hubs side A-B						maximum number of hubs side C-D					
	M20	M25	M32	M40	M50	M63	M20	M25	M32	M40	M50	M63
CSE 080705P	2	1	-	-	-	-	1	-	-	-	-	-
CSE 110705P	2	1	-	-	-	-	1	-	-	-	-	-
CSE 160705P	4	3	-	-	-	-	1	-	-	-	-	-
CSE 190705P	5	4	-	-	-	-	1	1	-	-	-	-
CSE 080707P	4	1	1	-	-	-	2	1	1	-	-	-
CSE 121209P	4	2	1	1	-	-	4	2	1	1	-	-
CSE 221209P	12	6	3	2	-	-	4	2	1	1	-	-
CSE 161609P	9	6	3	2	2	-	6	3	2	1	1	-
CSE 261609P	17	11	5	3	3	-	6	3	2	1	1	-
CSE 361609P	26	16	7	5	4	-	6	3	2	1	1	-
CSE 202512P	21	10	7	3	3	2	18	10	7	3	3	2
CSE 252512P	24	12	8	4	3	3	18	10	7	3	3	2
CSE 402512P	42	21	14	7	5	5	18	10	7	3	3	2
CSE 404012P	42	21	14	7	5	5	36	18	13	6	5	4
CSE 602512P	36	30	12	6	4	4	18	10	7	3	3	2
CSE 252516P	24	12	8	4	3	3	18	10	7	3	3	2
CSE 402516P	42	21	14	7	5	5	18	10	7	3	3	2
CSE 602516P	36	30	12	6	4	4	18	10	7	3	3	2

Terminal Box

The installation of Ex terminals inside the enclosures can be done following different dispositions (straight, diagonal, on more rows) according to the limits of certification in terms of distance and heat dissipation.

Below terminals table has been based on brand/range of Ex terminals listed in the CSE P enclosure certificate.

The table is purely indicative and any configuration based on client requirements must be performed by Supermec.

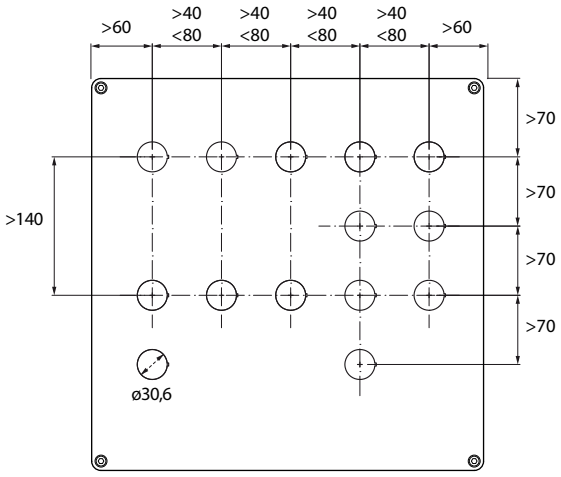


code	maximum number of terminals size in mm²									
	1.5	2.5	4	6	10	16	35	50	70	95
CSE 080705P	11	4								
CSE 110705P	19	11	9							
CSE 160705P	33	20	17							
CSE 190705P	42	26	21							
CSE 080707P	11	4								
CSE 121209P	13	13	11	8	6					
CSE 221209P	32	32	28	21	16					
CSE 161609P	20	20	18	13	11	9				
CSE 261609P	40	40	34	26	21	17				
CSE 361609P	59	59	50	38	30	25				
CSE 202512P	76	78	64	50	20	16	12	10		
CSE 252512P	76	78	64	50	20	16	12	10		
CSE 402512P	132	136	114	86	34	29	21	18		
CSE 404012P	198	198	71	129	68	58	21	18		
CSE 602512P	212	212	180	136	54	45	34	28		
CSE 252516P	76	76	64	50	20	16	12	10	10	
CSE 402516P	132	132	114	86	34	29	21	18	17	
CSE 602516P	212	212	180	136	54	45	34	28	24	

Control Station

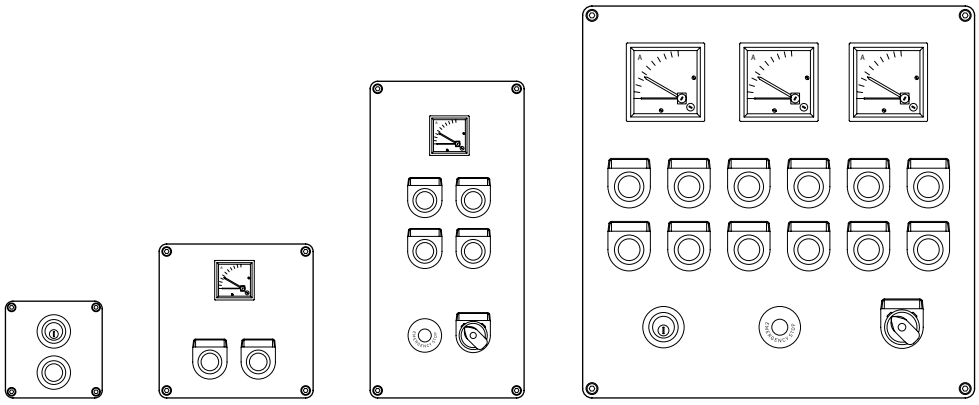
The CSE P enclosures can be equipped with all the Ex ed operators, switches and instruments present on our dedicated catalogue section.

Supermec selected some different brands of these components to satisfy the market requirements in term of availability of spare parts.



The installation of Ex operators and instruments inside the enclosures can be done according to the limits of certification in terms of distance and heat dissipation.
Any configuration based on client requirements must be performed by Supermec.

examples of possible installations



WH - WP- WA

The WH - WP operators and WA instruments are normally used in the chemical and petrochemical plants, off-shore platforms, refineries and any other industry where hazardous atmospheres (gas and combustible dust) are potentially present.

The WH - WP - WA range has been designed to meet the main requirements of power distribution, monitoring and signaling, and other electrical functions inside the hazardous area of the plant.

Function

The WH - WP - WA series are normally installed on CSE enclosures series used for the following main applications:

- control station and instrument housing
- instrument housing
- motor starter unit
- lighting control panel

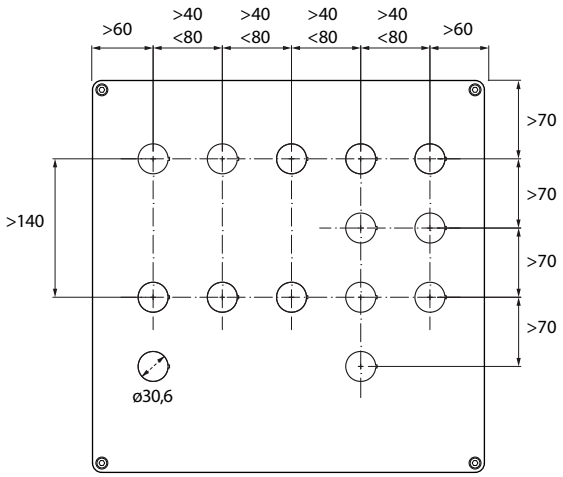
and fitted with other electrical and/or electronic equipment as per our client specific requirements.

Construction

The material used to manufacture the UH-UP operators and WA instruments have been studied to grant the maximum protection against the highly corrosive agents present in these industries:

- the external components (handle, push-button, diffuser, ect.) are made of high-quality antistatic and UV-protected polymers and provided with EPDM sealing to mantain the IP66 level of protection of whole control station;
- the internal Ex d components are made of high quality thermoplastic and are available for standard installation on cover or, as option, on a dedicated mounting rail;
- the larger handles are padlockable in different positions (upon request)
- the LED units for pilot light and luminaire push button are available with two range of voltage as indicated in the ordering table;
- the rated current of Ex switch module is up to 16 Amp. and its mechanical life is 1,000,000 times;
- the high brightness and the electrical life of LED units are granted for a minimum of 100,000 hours;
- the diffuser of pilot lights and luminaire push button units have a special design to grant a high visibility degree in any situation
- the external components are fixed directly on cover with a Ø 30 mm. hubs and a directional anchor point depending by type of installation requested.

The installation of Ex operators and instruments inside the enclosures can be done according to the limits of certification in terms of distance and heat dissipation. Any configuration based on client requirements must be performed by Supermec.



Protection

certificate number:	Atex & IECEx certificates available
marking:	Ex II 2GD Ex d e mb IIC T6 Gb Ex tb IIIC T85°C Db (control stations)
ambient temperature:	-55°C +60°C
degree of protection:	IP66 (external components) - IP20 (internal modules)
conformity:	Directive ATEX 94/9/EC
standards:	EN60079-0 / EN60079-1 / EN60079-7 / EN60079-11 / EN 60079-18 / EN60079-31
category:	suitable for Zone 1 - 21 (gas) and Zone 2 - 22 (dust)

Code	Colour	Contact
WPB R1		2 NC
WPB W2		2 NO
WPB G2		2NO
WPB X1		2 NC
WPB Y2		2NO

WPB

Spring-return flush pushbutton unit, supplied complete with one electrical contact module as listed and as option, with different combinations of contacts NO and NC .

Available in different colours as per side table and as option, engraved with electrical symbols .

Code	Colour	Contact
WPBD GR0		NO+NC
WPBD WX0		NO+NC

WPBD

Spring-return double pushbutton, supplied complete with one electrical contact module as listed and as option, with different combinations of contacts NO and NC.

Available in different colours as per side table and as option, with alternative colours with or without electrical symbols.

Code	Power	Resistance
WHP 1	1 W	1000 Ω
WHP 2	1 W	2000 Ω
WHP 5	1 W	4700 Ω
WHP 10	1 W	10000 Ω

WHP

Potentiometer unit with range of resistance values as indicated on the side table.

The knob is provided with a large visual display.

WPBM

Spring-return mushroom pushbutton unit, supplied complete with one electrical contact module as listed .

Code	Colour	Contact
WPBM X0	●	NO + NC
WPBM X1	●	2 NC
WPBM X2	●	2 NO

WPBEP

Push-pull emergency pushbutton unit, supplied complete with one electrical contact module as listed .

Code	Colour	Contact
WPBEP R0	●	NO + NC
WPBEP R1	●	2 NC
WPBEP R2	●	2 NO

WPBEK

Key to release emergency pushbutton unit, supplied complete with one electrical contact module as listed.

Code	Colour	Contact
WPBEK R0	●	NO + NC
WPBEK R1	●	2 NC
WPBEK R2	●	2 NO

WPBK

Stay-put key selector unit, supplied complete with one electrical contact module as listed.

The key can be extracted, locking the module on initial position.

Other functioning and locking schemes upon request.

Code	Colour	Contact
WPBK 0	●	NO + NC
WPBK 1	●	2 NC
WPBK 2	●	2 NO

Code	Colour	Contact
WPL R1		LED
WPL W1		
WPL G1		24 - 240 Vac
WPL Y1		24 - 36 Vdc
WPL B1		

WPL

LED pilot light unit, supplied complete with LED module with different voltages and different colours as per side table.

Code	Colour	Contact
WPL R2		LED
WPL W2		
WPL G2		240 - 380 Vac
WPL Y2		
WPL B2		

Code	Colour	Contact
WPBL R1		1 NC + LED
WPBL W1		
WPBL G1		24 - 240 Vac
WPBL Y1		24 - 36 Vdc
WPBL B1		

WPBL

Spring-return luminaire pushbutton unit, supplied complete with LED module with different voltage and one electrical contact as listed.

Available in different colours as per side table.

Code	Colour	Contact
WPBL R2		1 NO+ LED
WPBL W2		
WPBL G2		24 - 240 Vac
WPBL Y2		24 - 36 Vdc
WPBL B2		

Code	Overload Scale	Measuring Range	Measuring Way
WAM 0-2	2	0 - 1 / 2A	direct
WAM 0-8	2	0 - 4 / 8A	direct
WAM 0-10	2	0 - 5 / 10A	direct
WAM 0-20	2	0 - 10 / 20A	direct
WAM 0-30	2	0 - 15 / 30A	direct
WAM 2-2	2	0 - 1 / 2A	current transformer
WAM 2-5	2	0 - 2.5 / 5A	current transformer
WAM 2-10	2	0 - 5 / 10A	current transformer
WAM 2-30	2	0 - 15 / 30A	current transformer
WAM 2-50	2	0 - 25 / 50A	current transformer
WAM 2-80	2	0 - 40 / 80A	current transformer
WAM 2-100	2	0 - 50 / 100A	current transformer
WAM 2-120	2	0 - 60 / 120A	current transformer
WAM 2-150	2	0 - 75 / 150A	current transformer
WAM 2-200	2	0 - 100 / 200A	current transformer
WAM 2-300	2	0 - 150 / 300A	current transformer
WAM 2-400	2	0 - 200 / 400A	current transformer
WAM 2-500	2	0 - 250 / 500A	current transformer
WAM 2-600	2	0 - 300 / 600A	current transformer
WAM 2-800	2	0 - 400 / 800A	current transformer
WAM 2-1000	2	0 - 500 / 1000A	current transformer
WAM 2-1200	2	0 - 600 / 1200A	current transformer
WAM 5-5	5	0 - 1 / 5A	current transformer
WAM 5-12	5	0 - 2.5 / 12.5A	current transformer
WAM 5-25	5	0 - 5 / 25A	current transformer
WAM 5-75	5	0 - 15 / 75A	current transformer
WAM 5-125	5	0 - 25 / 125A	current transformer
WAM 5-200	5	0 - 40 / 200A	current transformer
WAM 5-250	5	0 - 50 / 250A	current transformer
WAM 5-300	5	0 - 60 / 300A	current transformer
WAM 5-375	5	0 - 75 / 375A	current transformer
WAM 5-500	5	0 - 100 / 500A	current transformer
WAM 5-750	5	0 - 150 / 750A	current transformer
WAM 5-1000	5	0 - 200 / 1000A	current transformer
WAM 5-1250	5	0 - 250 / 1250A	current transformer
WAM 5-1500	5	0 - 300 / 1500A	current transformer
WAM 5-2000	5	0 - 400 / 200A	current transformer
WAM 5-2500	5	0 - 500 / 2500A	current transformer
WAM 5-3000	5	0 - 600 / 3000A	current transformer

WA

Ammeter unit, available with a large number of measuring range electro-magnetic frameworks, scaled 2 or 5 times as per side tables.

The ammeter unit can make a direct measurement or connected to a current transformers and upon request, to a secondary current transformer.

The ammeter has a working tempe-rature range from -40°C to +60°C.

WBPS - WBPH - WPBHP

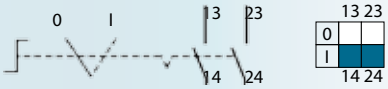
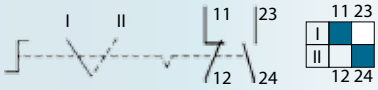
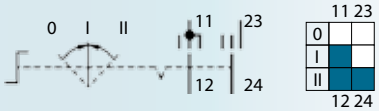
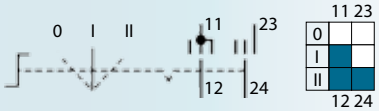
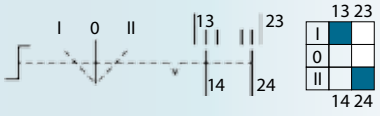
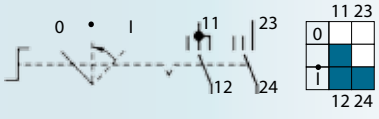
Handle unit for rotary switch up to 16 Amp. complete with integrated label with different indications as per different schemes listed.

WPBHP model is provided with a padlockable system in OFF position, to increase the level of security by unauthorized operations. The handle can be equipped with two padlocks.

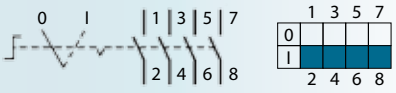
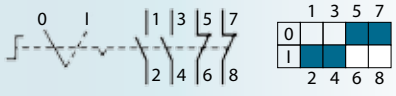
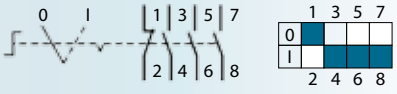
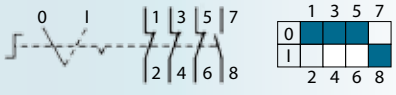
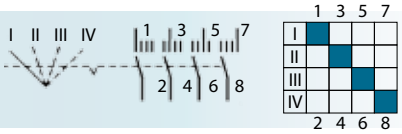
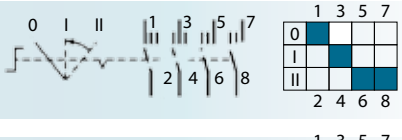
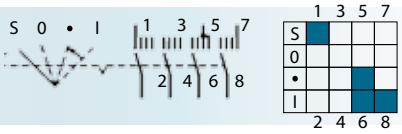
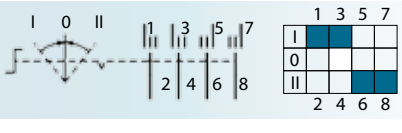
2 poles 16 A switches

WBPS

WBPH - WPBHP

Code	Padlock	Label	Contact schematic for operating position
WPBS 1		0 I	
WPBH 1		0 I	
WPBHP 1	•	0 I	
WPBS 2		I II	
WPBH 2		I II	
WPBHP 2	•	I II	
WPBS 3		0 I II	
WPBH 3		0 I II	
WPBHP 3	•	0 I II	
WPBS 4		0 I II	
WPBH 4		0 I II	
WPBHP 4	•	0 I II	
WPBS 5		I 0 II	
WPBH 5		I 0 II	
WPBHP 5	•	I 0 II	
WPBS 6		I 0 II	
WPBH 6		I 0 II	
WPBHP 6	•	I 0 II	
WPBS 7		0 • I	
WPBH 7		0 • I	
WPBHP 7	•	0 • I	

4 poles 16 A switches

Code	Padlock	Label	Contact schematic for operating position
WPBH 21		0 I	
WPBHP 21	•	0 I	
WPBH 22		0 I	
WPBHP 22	•	0 I	
WPBH 23		0 I	
WPBHP 23	•	0 I	
WPBH 24		0 I	
WPBHP 24	•	0 I	
WPBH 25		I II III IV	
WPBHP 25	•	I II III IV	
WPBH 26		I 0 II	
WPBHP 26	•	I 0 II	
WPBH 27		0 I II	
WPBHP 27	•	0 I II	
WPBH 28		0 I II	
WPBHP 28	•	0 I II	
WPBH 29		S 0 • I	
WPBHP 29	•	S 0 • I	
WPBH 210		I 0 II	
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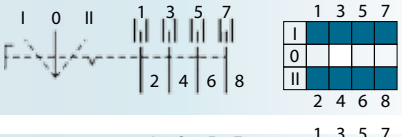
WPBH 211		I 0 II	
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WPBH 212		I II III IV	
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