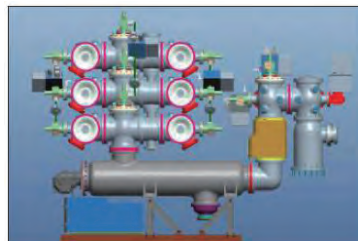




設備產品手冊

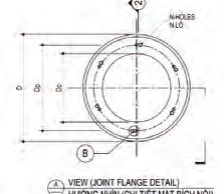
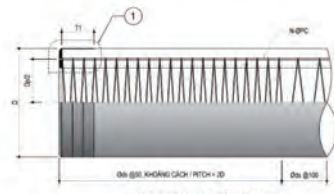
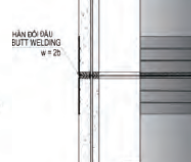
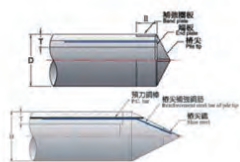
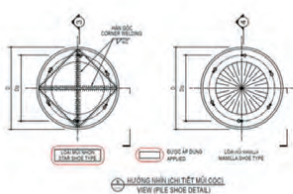
JDA improve your energy yield



245kV GIS : 1-Ph Enclosed Design



170kV GIS : 3-Ph Enclosed Busbar



note: subject to change without any notice, JDA pay no responsibility



JDA-3Z-125/ 250/ 400/ 630/ 800 直流塑膠外殼式斷路器 DC 1500V MCCB

產品特點

適用範圍與用途

- ◆ JDA-3Z系列直流塑膠外殼式斷路器（以下簡稱斷路器），產品適用於直流系統應用環境，額定工作電壓最高達DC1500V，額定工作電流至800A的電路中。為滿足客戶對直流系統更高電壓的應用，我司最新推出
- ◆ JDA-3Z-250V高電壓高分斷產品，該產品額定工作電壓高達DC1500V，額定工作電流至250A的電流中。斷路器具有超載、短路保護功能，能保護線路和電源設備不受損壞。產品廣泛用於新能源、電力發電、輸變電、通訊、工控、地產、電力電源、軌道交通、工（公）建等行業中。



技術參數

斷路器主要性能技術參數表

型號	JDA-3Z-125			JDA-3Z-250				JDA-3Z-250VM		JDA-3ZF-250		JDA-3Z-250V		
殼架等級電流Inm (A)	125			250				250		250		250		
額定電流In (A)	16、20、25、32、40、50、63、80、100、125			125、140、160、180、200、225、250				125、140、160、180、200、225、250		125、140、160、180、200、225、250		160、200、250		
額定絕緣電壓Ui (V)	1000			1200				1500		1200		1500		
額定衝擊耐壓Uimp (V)	8000			8000				8000		8000		12000		
工頻耐受電壓U (1分鐘) (V)	3500			3500				3820		3500		2000、3820		
使用類別	A			A				A		A		A、A		
極串	2	3	4	2	3	4	4	2	2	4	4	2	3	
額定工作電壓Ue DC (V)	500	750	1000	500	750	1000	1200	1000	1100	1000	1200	1000	1500	
額定極限短路分斷能力Icu (kA)	20	20	20	35	40	40	10	20	10	40	10	20	20	
額定運行短路分斷能力Ics (kA)	20	20	20	35	25	25	10	20	10	25	10	16	16	
操作性能	電氣壽命			5000				2000		5000		3000		
	機械壽命			20000				10000		12000		12000		10000、10000
外形尺寸 	L	150	150	150	165	165	165	165	180	165	165	200	200	
	W	92	92	122	107	107	142	142	75	142	142	90	135	
	H	87	87	87	104.5	104.5	104.5	104.5	105	165	165	104.5	104.5	
飛弧距離 (mm)	≤50			≤50				≤50		≤50		≤50		
接線方式	常規	常規, J0	J0, J1, J2	常規	常規, J0	J0, J1, J2, J3	J0, J1, J2, J3	常規		J1		常規		



技術參數

斷路器主要性能技術參數表

型號	JDA-3Z-400			JDA-3Z-630				JDA-3Z-800				
殼架等級電流 I_{nm} (A)	400			630				800				
額定電流 I_n (A)	225、250、315、350、400			400、500、630		1000、1250 (並聯)		630、700、800		1250、1440 (並聯)		
額定絕緣電壓 U_i (V)	1000			1000				1000				
額定衝擊耐壓 U_{imp} (V)	8000			8000				8000				
工頻耐壓電壓 U (1分鐘) (V)	3500			3500				3500				
使用類別	A			A				A				
極串	2	3	4	2	3	4	4	2	3	4	4	
額定工作電壓 U_e DC (V)	500	750	1000	500	750	1000	500	500	750	1000	500	
額定極限短路分斷能力 I_{cu} (kA)	35	40	40	35	40	40	30	35	40	40	30	
額定運行短路分斷能力 I_{cs} (kA)	35	40	40	35	40	40	30	35	40	40	30	
操作性能	電氣壽命	1000			1000				1000			
	機械壽命	5000			5000				5000			
外形尺寸 	L	257	257	257	270	270	270	270	280	280	280	280
	W	150	150	198	182	182	240	240	210	210	280	280
	H	104.5	104.5	104.5	108.5	108.5	108.5	108.5	112	112	112	112
飛弧距離 (mm)	≤100			≤100				≤100				
接線方式	常規	常規、J0	J0、J1、J2、J3	常規	常規、J0	註1	並聯	常規	常規、J0	註2	並聯	

註1: 400/500A: J0、J1、J2、J3。 630A: J0 (短接排可選購)

註2: 630A: J0、J1、J2、J3。 700/800A: J0 (短接排可選購)

JDA-3Z 直流塑殼式斷路器溫度變化降容係數表

序號	殼架等級 額定電流 (A)	溫度對應產品降容係數						
		40°C	45°C	50°C	55°C	60°C	65°C	70°C
1	125	1	1	1	0.96	0.91	0.85	0.78
2	250	1	1	1	0.95	0.93	0.91	0.88
3	400	1	1	1	0.93	0.91	0.89	0.85
4	630	1	1	1	0.92	0.90	0.89	0.83
5	800	1	1	1	0.92	0.89	0.85	0.80

註：當使用環境溫度低於50°C時，產品可正常使用，不存在降容。

JDA-3Z 直流塑殼斷路器海拔變化降容係數表

海拔高度 (m)	2000	3000	4000	5000
工作電流修正係數	I_n	0.97 I_n	0.93 I_n	0.89 I_n
工作電壓修正係數	U_e	U_e	U_e	U_e
工頻耐壓修正係數	U	U	U	U



JDA-M5-250V Molded Case Circuit Breaker (AC1000V)-Series Molded Case Circuit Breakers User Manual

產品特點

適用範圍與用途

JDA-M5-250V 系列塑料外殼式斷路器 (以下簡稱斷路器) · 額定絕緣電壓為1000V · 適用於交流50Hz/60Hz · 額定工作電壓至AC1000V · 額定工作電流63A、80A、100A、125A、160A、200A、250A 的電路中 · 用來分配電能 · 同時對線路及電源設備的過載、短路、欠電壓(帶欠壓脫扣器的)起保護作用。

具有隔離功能 · 其相應符號為： 

符合標準：IEC 60947-2



技術參數

Frame current Inm	250A	
Rated current In	63A、80A、100A、125A、160A、200A、250A	
Rated voltage Ue	AC800、AC1000	
Rated frequency(Hz)	50/60	
Rated impulse withstand voltage Uimp	8000V	
Rated insulation voltage Ui	1000V	
Power frequency withstand voltage (1min)	3500V	
Rating breaking capacity Icu(kA)	AC800V	50
	AC1000V	30
Rating breaking capacity of rated operation Icu(kA)	AC800V	35
	AC1000V	15
Lifetime(time)	Mechanical life	25000
	Electrical life	1500



24KV GIS

ECOSMART GIS COMPONENTS

Compact Series, Configuration 2SCBS

- | | |
|-------------------------------|----------------------------|
| 1 Lifting Eyebolts | 8 Cables Compartment |
| 2 Stainless Steel Tank | 9 Cables Compartment Panel |
| 3 Operating Mechanisms | 10 Low Voltage Cabinet |
| 4 Vacuum Circuit Breaker | 11 Fuse Holders |
| 5 Voltage Presence Indicators | 12 Optional Key Locks |
| 6 Pressure Gauge | 13 Cable Bushings |
| 7 Support Frame | |





Technical Characteristics

ECOSMART GIS			
Rated voltage	Ur (kV)	12	24
Power Frequency Withstands Voltage -Towards ground-between phases -Aoross insulating distance	Ud (kV)	28	50
		32	60
Rated Lightning Impulse Withstand Voltage -Towards ground-between phases -Aoross insulating distance	Up (kV)	75	125
		85	145
Rated Frequency	fr (Hz)	50	50
Rated Current	Ir (A)	630	630
Rated Short Time Withstand Current	Ik (kA)	16 (tk=1s)	16 (tk=1s)
		20 (tk=1s)	20 (tk=1s)
		20 (tk=3s)	20 (tk=3s)
		25 (tk=1s) ⁽¹⁾	
Internal Arc Withstand Current (IAC AFLR)	(kA)	20 x 1s	20 x 1s
Internal Arc Withstand Current (inside the fuse holder)	(kA)	16	16
Service Continuity	LSC2A as per IEC 62271-200		
SWITCH DISCONNECTOR			
Mainly Active Load Current	TDloa2 (A)	630	630
	TDloa1 (A)	31.5	31.5
Closed-Loop Distribution Circuit Current	TDloop (A)	630	630
Cable-Charging Current	TDcc2 (A)	16	16
	TDcc1 (A)	4	4
Line-Charging Current	TDlc (A)	1.5	1.5
Earth Fault Current	TDef1	48	48
Cable And Line Charging Current Under Earth Faults	TDef2	28	28
		40	40
Short-Circuit Making Current	TDma (kA)	50	50
		62.5 ⁽²⁾	
Number Of Making Operations	n.		5 ⁽²⁾
Electrical Endurance Class		E3 ⁽²⁾	
Mechanical Endurance Class		M1 (1000)	
FUSE SWITCH-DISCONNECTOR			
Rated Current	Ir (A)	250	250
Short-Circuit Making Current	TDma (kA)	40	40
		50	50
Number Of Making Operations	n.	5	5
		5	5
EARTHING SWITCH			
Short-Circuit Making Current	TDma (kA)	40	40
		50	
Number Of Making Operations	n.	5	5
		5	5
EARTHING SWITCH DOWNSTREAM THE FUSES			
Rated Short Time Withstand Current For Tk=1s	Ik (kA)	2.1	2.1
Short-Circuit Making Current	TDma (kA)	5.4	5.4
Number Of Making Operations	n.	5	5
VACUUM CIRCUIT BREAKER			
Power Frequency Withstands Voltage 50 Hz 1 Min.	Ud (kV)	28	28
Rated Lighting Impulse Withstand Voltage	Up (kV)	75	125
Rated Current	Ir (A)	630	630
Rated Short-Circuit Breaking Current	Isc (kA)	16-20	16-20
Rated Short Time Withstand Current (Tk=1s)		16-20	16-20
Operation Sequece		O - 0,3sec - CO -3min -CO	
Single Phase and Double-Earth Fault Tests	-	20 kA at 13,8 kV	20 kA at 13,8 kV
		17,3 kA at 24 kV	17,3 kA at 24 kV
Mechanical Endurance Class		M1 (1000) ⁽³⁾	

NOTE: (1) 25kA rating available with switch-disconnector only (2) For 12kV, 62.5kA Short-Circuit Making Current operations only, performed 2 times and with Electrical Endurance Class E1 (3) M2 (10000) available upon request



PRODUCT CATALOGUE

Ring Main Unit

RMU-24-630A

About

The Ring Main Unit (RMU) is a compact design for smart secondary distribution solutions. The RMU is characterised by its high level of operational safety & suitable for applications up to 36kV. It has been designed & developed using State of the Art technology for optimal performance in a range of applications, from diverse industrial requirements to power generation & distribution. A range of RMUs are provided with proven Vacuum Interrupters along with Numerical Self Powered Relays & accessories like Feeder Remote Terminal Unit to ensure reliability & SCADA compatibility.



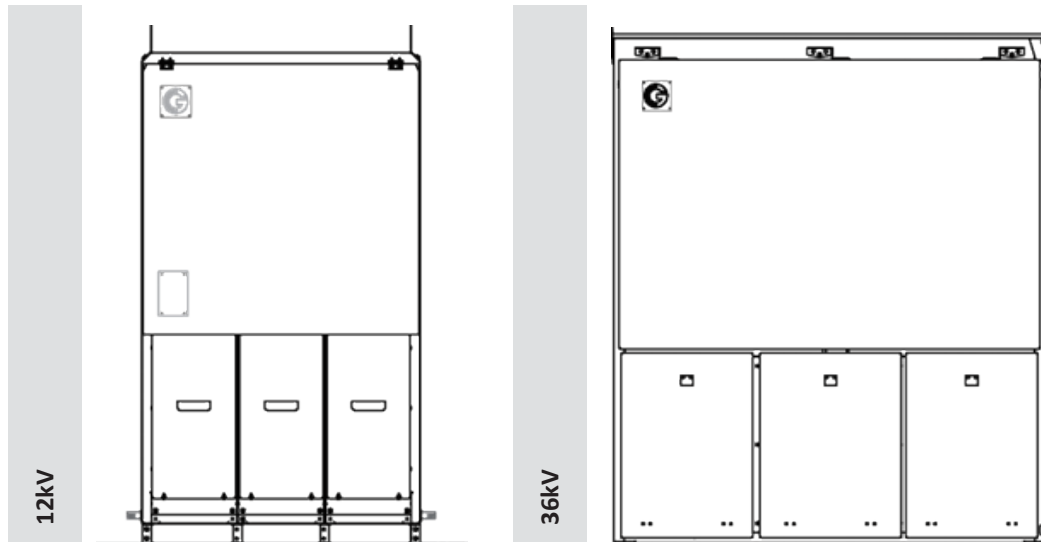
Technical Specifications

Characteristics	Value	
Rated Voltage (kV)	12kV	36kV
Rated Current (A)	630 A	630 A
Rated Frequency (Hz)	50 Hz	50 Hz
Power Frequency for 1min		
Between Ph & Ph to earth (kV)	38 kV	70 kV
Isolating Distance (kV)	45 kV	80 kV
Lightning Impulse		
Between Ph & Ph to earth (kVp)	95 kVp	170 kVp
Isolating Distance (kV)	110 kV	195 kV
Rated Short Circuit Current		
Breaking Capacity (kA)	21 kA rms	26.3 kA rms
Making Capacity (kAp)	52.5 kAp	65.75 kAp
Short Time Withstand Current	26.3 kA for 3s	26.3 kA for 3s
Internal Arc- AFLR	21 kA for 1s	26.3 kA for 1s
Operating Duty Cycle for Breaker (Duty Cycle)	O-3min-CO-3min-CO	O-0.3s-CO-3min-CO
IP Rating		
Main Tank	IP 67	IP 67
Enclosure	IP 54	IP 54
Cable Termination (LBS/ VCB)	Front Bottom	Front Bottom

NOTE: CG continuously strives to improve its products & services. The technical information included in this document is subject to change without any notice.



Configurations



Dimensions (in mm)

Description	12kV			36kV		
	W	H	D	W	H	D
Single Way (V/S)	406	955	1086	825	1750	2125
Three Way	1088	955	1086	1750	1750	2125
Four Way	1433	955	1086	2325	1750	2125

* Note: Dimensions of the unit may vary as per the features and facilities incorporated.

Standards Compliances & Certifications

Standard	IEC 62271-100	IEC 62271-102	IEC 62271-103	IEC 60529
Component	Vacuum Circuit Breaker	Earthing Switch	Switch Disconnector	Degree of Protection

Application





ECOSMART VCB F 12~25KV



1. Poles
2. Support Frame
3. Spring Charging Lever
4. Opening / Closing Push Buttons
5. CB Status Indicator
6. Key Lock
7. Operation Counter
8. Spring Status Indicator

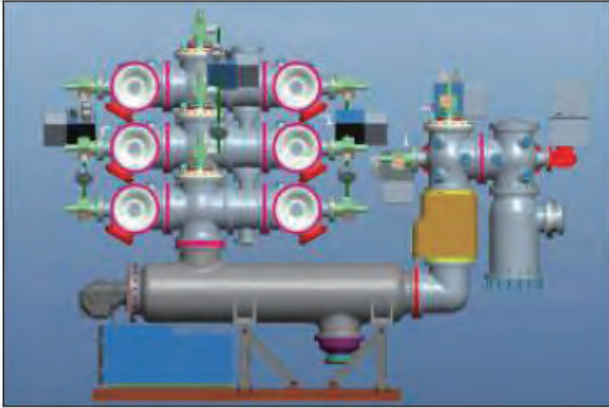
Technical Characteristics

ECOSMART VCB F													
Rated Voltage	Ur (kV)	12				17.5				24			
Power frequency withstands voltage 50/60 Hz 60 sec	Ud (kV)	28				38				50			
Rated lightning impulse withstand voltage	Up (kV)	75				95				125			
Rated frequency	fr (Hz)	50				50				50			
Rated short-circuit breaking current	Isc (kA)	16	20	25	31.5	16	20	25	31.5	16	20	25	
Rated short time withstand current	I _{lk} (kA/3s)	16	20	25	31.5	16	20	25	31.5	16	20	25	
Rated current	I _r (A)	630	-	630	630	630	-	630	-	630	630	630	
		1250	-	1250	1250	1250	-	1250	-	1250	1250	1250	
		1600	-	1600	1600	1600	-	1600	1600	1600	1600	1600	
		2000	-	2000	2000	2000	-	2000	2000	2000	2000	2000	
		2500	-	2500	2500	2500	-	2500	2500	2500	2500	2500	
Operation sequence	O - 0,3sec - CO - 3min - CO ⁽¹⁾												
Mechanical Endurance Class	M1 (2000)												
	M2 (10000)												
OPERATING CONDITIONS ACCORDING TO IEC 62271-1													
Service Temperature	°C	-5/+40											
Temperature (for stocking)	°C	-40/+70											
Average temperature over 24h	°C	35											
Maximum altitude (above sea level)	m	≤1000											

(1) O - 0,3sec - CO - 15 sec - CO available on request



72.5~345KV GIS



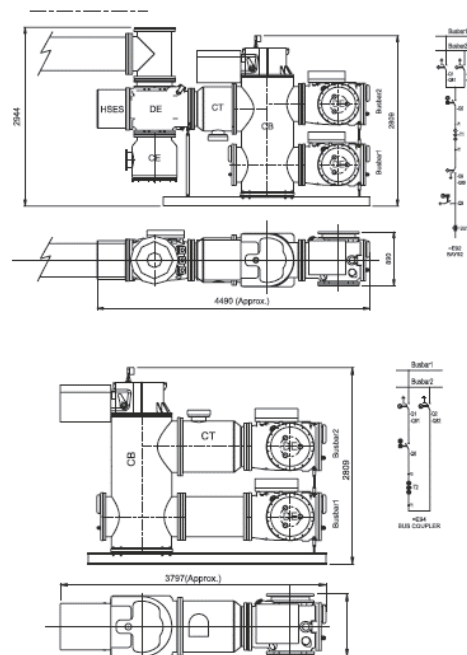
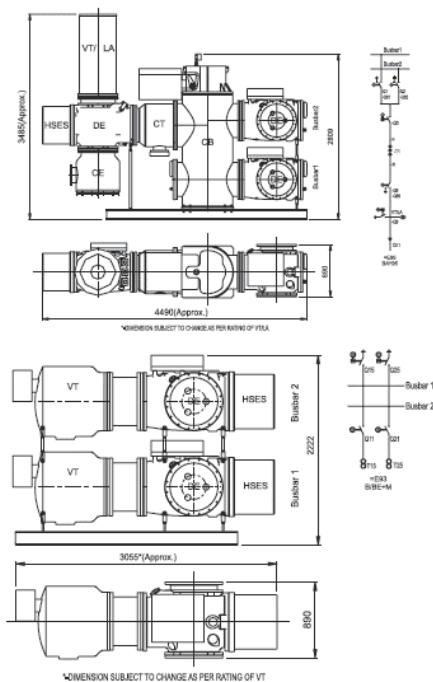
245kV GIS : 1-Ph Enclosed Design



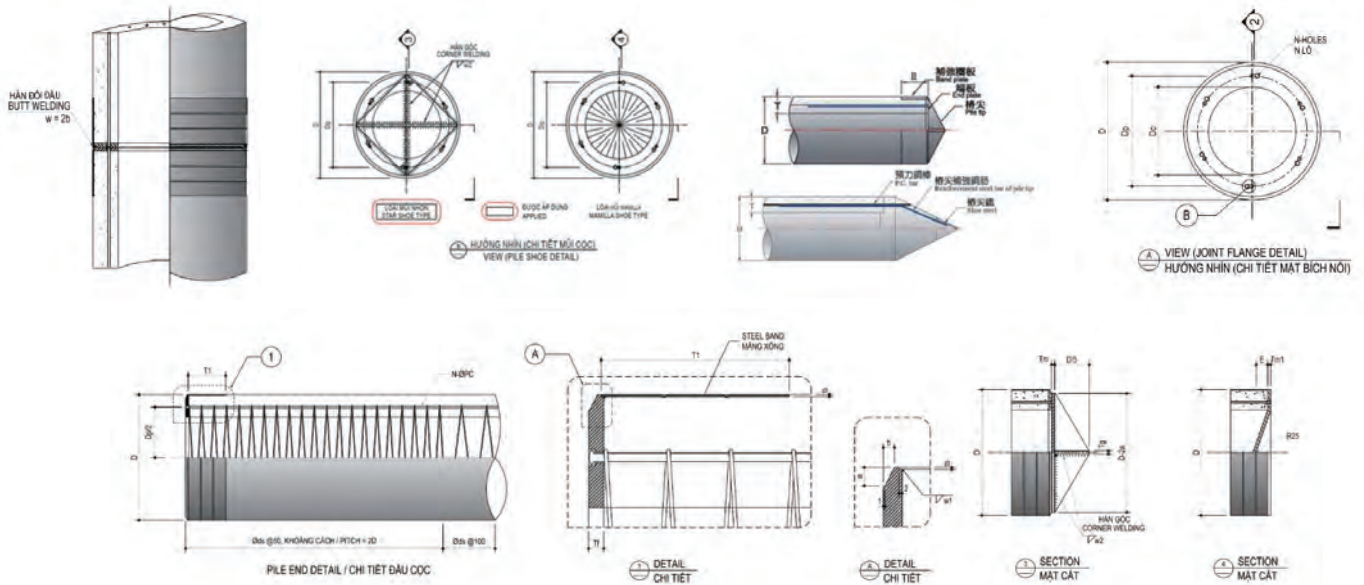
170kV GIS : 3-Ph Enclosed Busbar

Technical Data

Rated voltage	kV	72.5/145	170	245/300
Rated Current	A	3150	3150	3150/4000
Rated Frequency	Hz	50	50	50
Rated Power Frequency Withstand Voltage (1min)	kVrms	140/275	325	460
Rated Power Impulse Withstand Voltage	kVp	325/650	750	1050
Rated Short Circuit Breaking Current	kArms	40	40	40/50
Rated Peak Withstand Current	kAp	100	100	100/125



Summary of VGSI PHC Piles' Strength Specifications





Summary of VGSI PHC Piles' Strength Specifications


Type	Diameter (mm)	Thickness (mm)	PC bar (mm)	Spiral (mm)	TCVN 7888:2014 (kN.m)		Calculation (kN.m)		R _{aL} (kN)	R _{aS} (kN)	P _{max} (Tonf)	P _a (Tonf)	P _{ult} (Tonf)	Unit weight (Tonf/m)	Tension (kN)	Shear (*) (kN)	
					M _{cr} (*)	M _u	M _{cr}	M _u									
A	300	60	6 Ø 7.1	3	24.5	36.75	25.30	107.63	982	1,964	125	62	156	0.118	186.5	99.1	
		65					25.57	110.18	1,044	2,088	133	66	166	0.125	187.4		
		70					25.69	112.03	1,103	2,206	141	70	176	0.132	188.2		
	350	60	7 Ø 7.1	3	34.3	51.45	37.16	141.64	1,188	2,376	161	80	201	0.142	218.2	118.7	
		65					37.43	144.74	1,269	2,538	172	86	215	0.151	219.3		
		70					37.83	147.06	1,346	2,692	183	91	228	0.160	220.2		
	400	65	10 Ø 7.1	3	54	81	56.81	196.74	1,478	2,956	224	112	280	0.178	308.1	148.1	
		70					57.78	200.23	1,572	3,144	238	119	297	0.189	309.7		
		75					57.92	202.84	1,664	3,328	252	126	315	0.199	311.2		
		80					58.33	204.72	1,752	3,504	266	133	332	0.209	312.4		
		85					59.09	206.05	1,834	3,668	278	139	347	0.219	313.6		
	500	90	9 Ø 9.0	4	103	154.5	59.07	206.55	1,916	3,832	291	145	363	0.228	314.5	228.6	
		80					106.93	369.34	2,289	4,578	348	174	435	0.274	446		
		85					108.09	374.62	2,408	4,816	366	183	457	0.288	448		
		90					108.86	378.77	2,525	5,050	384	192	480	0.301	450		
		95					110.34	381.95	2,636	5,272	401	200	501	0.314	451		
	500	100	14 Ø 7.1	4	103	154.5	110.45	384.36	2,747	5,494	418	209	522	0.327	453	228.6	
		80					105.87	293.62	2,291	4,582	348	174	435	0.274	435		
		85					107.00	295.09	2,411	4,822	366	183	457	0.288	437		
		90					107.74	296.14	2,528	5,056	384	192	480	0.301	438		
		95					109.20	296.86	2,639	5,278	401	200	501	0.314	440		
	600	100	12 Ø 9.0	4	166.8	250.2	109.29	203.79	2,750	5,500	418	209	522	0.327	441	311	
		90					176.86	492.16	3,130	6,260	475	237	593	0.375	597		
		95					178.48	495.02	3,279	6,558	498	249	622	0.392	599		
100		181.31					497.17	3,422	6,844	520	260	650	0.408	601			
105		181.94					498.77	3,565	7,130	541	270	676	0.425	603			
800	110	20 Ø 9.0	5	392.4	588.6	183.94	499.95	3,701	7,402	562	281	702	0.440	604	512.1		
	115					403.13	793.33	5,170	10,340	744	372	930	0.620	994			
	120					405.58	795.72	5,378	10,756	774	387	967	0.643	997			
	125					411.06	797.36	5,578	11,156	803	401	1003	0.667	1,000			
	130					411.89	798.40	5,780	11,560	832	416	1040	0.689	1,002			
B	300	60	8 Ø 9.0	3	34.3	61.74	419.53	799.91	6,165	12,330	887	443	1108	0.733	1,007	125.6	
		65					36.41	121.17	933	1,866	119	59	148	0.118	360.1		
		70					36.46	124.80	995	1,990	127	63	158	0.125	364.0		
	350	60	10 Ø 9.0	3	49	88.2	36.56	127.79	1,052	2,104	134	67	167	0.132	367.4	150.1	
		65					55.16	168.96	1,124	2,248	152	76	190	0.142	447.1		
		70					55.25	175.25	1,204	2,408	163	81	203	0.151	452.5		
	400	65	12 Ø 9.0	3	73.6	132.48	55.58	185.34	1,351	2,702	183	91	228	0.168	461.1	187.4	
		70					78.62	225.73	1,411	2,822	203	101	253	0.178	540.9		
		75					79.20	232.60	1,505	3,010	216	108	270	0.189	546.8		
	500	90	18 Ø 9.0	4	147.2	264.96	79.34	238.47	1,595	3,190	229	114	286	0.199	552.0	288.4	
		90					150.68	360.80	2,418	4,836	348	174	435	0.301	829.2		
		95					154.56	589.33	2,975	5,950	428	214	535	0.375	1,141		
	600	95	18 Ø 10.7	4	245.2	441.36	256.35	600.93	3,121	6,242	449	224	561	0.392	1,150	392.4	
		100					257.39	610.09	3,264	6,528	470	235	587	0.408	1,159		
		105					257.72	618.10	3,406	6,812	490	245	612	0.425	1,166		
	800	110	27 Ø 10.7	5	539.6	971.28	545.47	1,169.37	4,961	9,922	714	357	892	0.620	1,742	646.5	
	C	300	60	10 Ø 9.0	3	39.2	78.4	41.27	121.69	913	1,826	116	58	145	0.118	428.7	136.4
			65					41.19	125.70	974	1,948	124	62	155	0.125	434.8	
		350	60	12 Ø 9.0	3	58.9	117.8	60.93	166.98	1,105	2,210	150	75	187	0.142	515.3	162.8
			65					61.06	171.10	1,183	2,366	160	80	200	0.151	523.0	
		400	65	15 Ø 9.0	3	88.3	176.6	88.61	222.49	1,382	2,764	199	99	248	0.178	644.3	204
			70					88.92	230.47	1,476	2,952	212	106	265	0.189	653.4	
		500	90	18 Ø 10.7	4	166.8	333.6	181.61	418.26	2,343	4,686	337	168	421	0.301	1,088.4	313.9
			95					181.27	425.59	2,455	4,910	353	176	441	0.314	1,099.3	
600		100	24 Ø 10.7	4	284.5	569	298.84	633.99	3,182	6,364	458	229	572	0.408	1,456.9	427.7	
		105					299.94	646.72	3,320	6,640	478	239	597	0.425	1,470.1		
800		110	27 Ø 12.6	5	637.6	1275.2	652.16	1,311.88	4,812	9,624	692	346	865	0.620	2,261	704.4	
		115					655.93	1,341.74	5,013	10,026	721	360	901	0.643	2,281		
			120				658.36	1,369.63	5,212	10,424	750	375	937	0.667	2,300		

Note (*) Required according TCVN 7888:2014
 P_a Allowable Pa 0.5* P_{max}
 R_{as} Short capacity, as TCVN 7888:2014
 P_{ult} Ultimate Pult P_{max}/0.8
 R_{aL} Long capacity, as TCVN 7888:2014
 P_{max} Maximum load,




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