

VOLTAP**General Data**

Customer*		Project Name*	
Contact Person*		Offer No.	
Email*		End customer	
Phone		Country / Destination	
Inquiry No.*		Date	

Form Instructions

Complete as much information as you can and fill out. Our team will review and contact you if needed.

(*) Mandatory fields must be completed

Dropdowns:

"without" = not included by default (can be changed)

Prefilled values can be modified or entered manually

Letter code for parameter changes in this order sheet.

F = changeable parameters w/o a fee not later than 6 weeks before the confirmed ship date. May impact ship date.

P = changeable parameters that for a fee not later than 6 weeks before the confirmed ship date. May impact ship date.

N = non-changeable parameters. Need to amend such may require full product model reconsideration.

**OLTC**

QTY

**DETC**

QTY

**MDU**

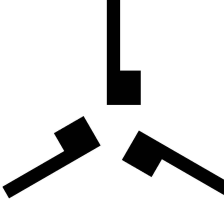
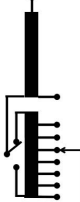
QTY

**ZR03**

QTY

Language of operating instructions		Options	
	Language of operating instructions	English	
	Quantity of documents per unit	1	
	Language of technical data nameplate	English	
	Ambient temperature	Celsius	
N	Climate	Moderate: -25°C to +50°C	
P	Color of painted parts	RAL7035	
P	Corrosiveness category	C3-standard	
	3D model to be provided on ordering stage	YES	

VOLTAP**Transformer Data**

N	Transformer type*	Separate winding transformer		Application	Network
N	Number of phases*	3 phase		Frequency*	50Hz
N	Configuration of Tap-winding*	Star		Type of switching*	Plus/Minus
					
N	Rated Power (MVA)*		constant	Decreasing from position	
N	Overload*	Acc. to IEC 60076		% for	min
N	Rated voltage (kV)*		For autotransformer	Constant voltage	
N	Regulation range*	±	%	or	+
N	Regulation range*	±	kV	or	+
N	Number of steps*	±	steps	or	+
N	Rated step voltage/phase (V)	Constant		Ust=	Ust max=
N	Maximum rated though current (A)	I _{max} =			

Operating and test voltages

P	Max operating voltage	HV test, kV			
		LI 1.2/50μs	AC 1min,50Hz	SI (optional)	
N	At the line of the transformer kV				
N	At the OLTC to ground kV*				
	Voltage stress in kV during HV transformer test	VOLTAP	OTHERS ¹		
	Between tap in service and preselected tap	a ₀	a ₁		
	Across fine tap winding	b ₁	a		
	Fine tap winding between phases	b ₂	b		
	Across coarse and fine tap winding	c ₁	c ₁		
	Between (-) change-over selector contacts for different phases	c ₂	c ₂		
	Across coarse tap winding	d	d		

Comments¹ Insulation distance designation used by other OLTC manufacturer

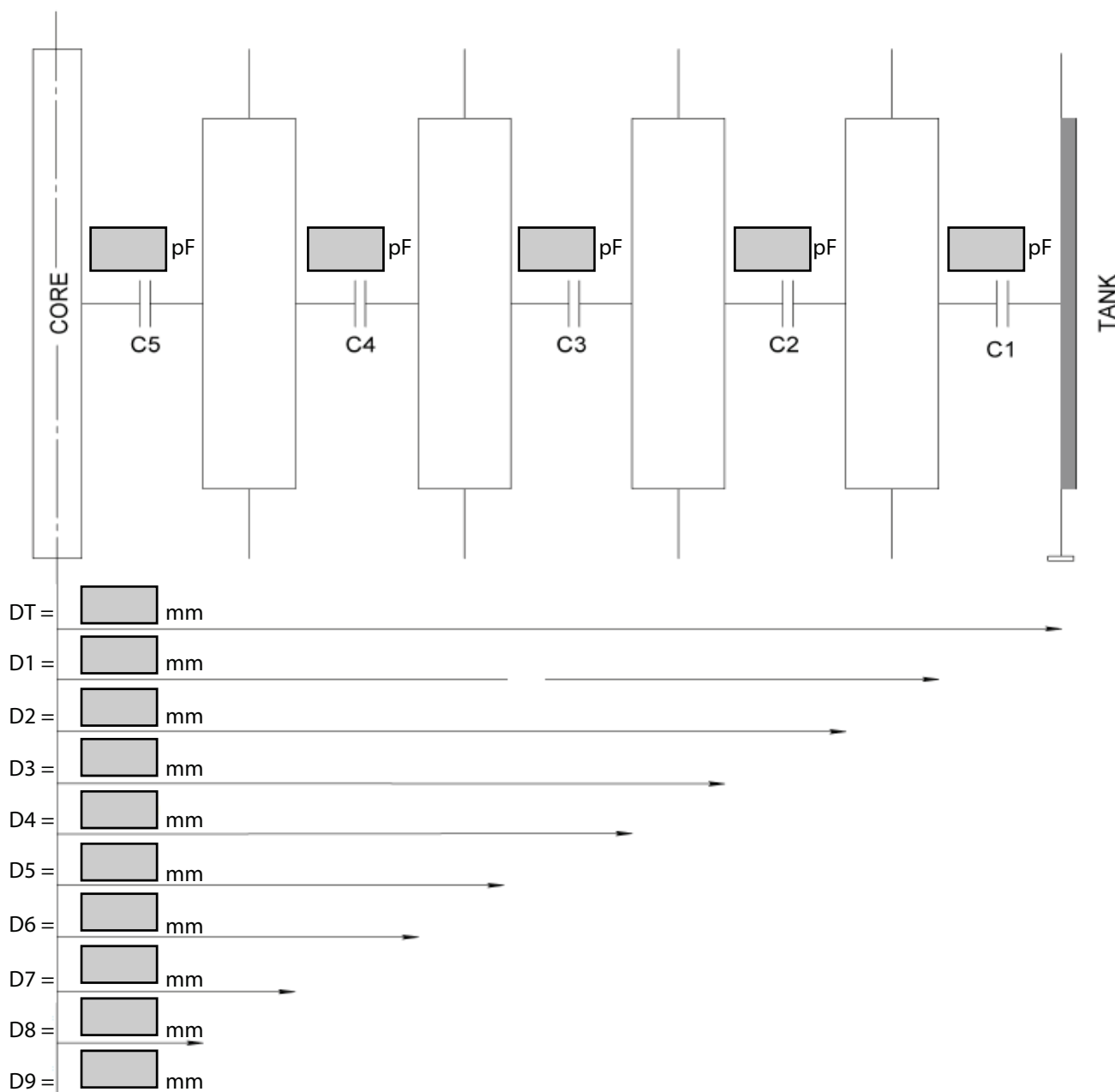
VOLTA P**Transformer Data**

OLTC design data

P	Recovery voltage	☒ < 35 kV for RS9/9.3,RS6/6.3,RS5/5.3,RSV9.3,RSV6.3,RSV5.3			
		☐ < 15kV for type RS12,RSV12			
		☐ kV Potential connection necessary			
P	Potential connection of TIE-in resistor	Tie in resistors in a insulating plate			
p	Leakage inductance Between coarse and fine tap winding	X= J Ω	or	Coarse tap-winding	J Ω
			Fine tap-winding	J Ω	

Winding arrangement and dimensions

Winding				
Winding Height	mm	mm	mm	mm



VOLTAP

OLTC Data

	OLTC Type		Oil type																			
	Number of columns	Series	Phase	Y/D	Rated Current A	Um, kV	Selector size	Connection diagram														
	Auto Fill	Select	Select	Select	Select	Select	K															
	Tap changer dimensions		Drawing number																			
P	Phase designation		U, V, W		Carrying flange shape		Round															
	Max. effect. number of turns at position																					
	Mid Position																					
	Raise means movement towards position ²																					
F	Drive shafts arrangement ³		P1	P2	P3	P4	P5	P5a	P6	P6a	P7	P7a	P8	P8a	P9	P10	P11	P12				
			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐				
F	Drive shaft variant		Variant-I																			
P	Head Arrangement		Q1 ☐ Q2 ☐ Q3 ☐ Q4 ☐ Q5 ☐				RS9.3/RSV9.3				Q1 ☐ Q2 ☐ Q3 ☐ Q4 ☐				RS12/RSV12				RS5.3/RSV5.3, RS6.3/RSV6.3 are always produced with Q3, Q4, and Q5 pipe connections			
F	Drain pipe arrangement		☒ Left(Q5)				☐ Right(Q4)				RS9.3/RSV9.3, RS5.3/RSV5.3, RS6.3/RSV6.3, RS5, RS6, RS9											
F	Mounting of OLTC to the transformer		Bell type				Q1, Q2 - FLANGE FOR A PROTECTIVE RELAY OR AN OIL FILTER (ROTATING) Q3 - FLANGE FOR A PROTECTIVE RELAY OR AN OIL FILTER (NON-ROTATING) Q4, Q5 - FLANGE FOR A SIPHON OR PROTECTIVE RELAY.															
P	Protective relay (EMB)		Default type of EMB				URF 25/10				NO	0	NC	0	CO	0						
P	Other protective relay										NO	0	NC	0	CO	0						
P	Pressure relief device		WITHOUT																			
P	Pressure rise relay		WITHOUT																			
	Parallel bridge for tap-selector		WITHOUT																			
P	Lifting device for diverter switch		WITHOUT																			
P	By-pass pipe connection		WITHOUT																			
P	Package		Wooden cases																			

comments

² Raise means movement of the pointer towards R ³ Please refers to the drive shaft arrangement section of the selected or offered OLTC

VOLTAP

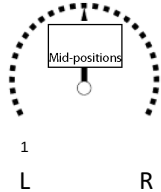
DETC Data

Tap-changer designation																		
N	Number of Columns	Series	phase	Rated current A	Um, kV	Connection diagram												
N	1	PBV01	III															
	Tap-changer dimensions		Drawing number															
F	Phase designation		R,Y,B															
N	Tap-winging connection		ME															
F	Drive shaft variant		Variant-I															
	DETC mounting to the transformer		On Transformer cover															
	Manual drive unit ZR-03		Drawing number															
	Locking system for ZR-03		Safety Lock															
	Remote position indicator		WITHOUT															
F	Drive Shaft Arrangement ⁴		P1	P2	P3	P3'	P4	P5'	P6	P6'	P6''	P7	P7'	P8	P8'	P9	P9'	P10
			☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	Drive shaft dimensions in mm		A				B				C				α			
			A1	A2	A3	A4	A5	A6	A7									
P	Shaft C, according to the drawing		Insulating															

Comments

⁴ Please refers to the drive shaft arrangement section of the selected or offered DETC

VOLTA P**MDU Data****General data**

N	MDU type	MZ 4.4		
	Door opening direction	Left		
P	Degree of protection	IP 66		
	MDU box	X5CrNiMoI17-12-2 (AISI 316L) MZ 4.4-10 special design		
N	Duration of tap-change cycle	☒ 4.5s	☐	
P	Cable gland at bottom plate	☒ 2xM25; 2xM40	☐	xM ; ☐ xM ☐ without
P	Bottom plate material	X5CrNi 1810 (AISI 304)		
	Max. effect. number of turns at position			
	Mid Position			
	Raise means movement towards position			

Electrical motor circuit data

P	Supply voltage*	240VAC
P	Network type*	3AC/N
P	Frequency*	50Hz

Control circuit data

P	Supply for control circuit*	From motor circuit
P	Supply of control circuit *	220VAC
P	Frequency of control circuit *	50Hz
P	Automatic passage of positions "Raise"	WITHOUT
P	Automatic passage of positions "Lower"	WITHOUT
P	"Local-Remote" switch	WITHOUT
P	Raise/Lower control device	Pushbutton
P	Emergency STOP button – mushroom head	WITHOUT
P	MDU disabled when the DSI oil temperature is below -25 °C	WITHOUT
P	Status of the time relay against unintentional consecutive switching	WITHOUT
P	Relay for an incomplete tap change	WITHOUT
P	Time relay against unintentional consecutive switching	WITHOUT
P	Phase sequence relay with value control of motor supply voltage	WITHOUT
P	Voltage control relay of control circuit supply voltage	WITHOUT

Comments

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MDU DATA

Auxiliary circuit data

P	Supply for auxiliary circuit*	From motor circuit
P	Supply of control circuit*	230VAC
P	Frequency of auxiliary circuit*	50Hz
P	Hygrostat	WITHOUT
P	Manual heating control (with circuit breaker)	WITHOUT
P	Plug socket	DIN 10A (Shuko) 220/230 V

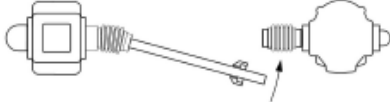
Common MDU output signals

P	End position reached	1NO
P	MDU in motion (indicating direction of motion)	1NO
P	MDU in motion	1NO + 1NC
P	Automatic motor circuit breaker status	1NO + 1NC
P	Automatic circuit breaker status for the control circuit	1NO + 1NC
P	Automatic circuit breaker status for the auxiliary circuit	WITHOUT
P	Status of the time relay against unintentional consecutive switching	WITHOUT
P	Relay for incomplete tap change	WITHOUT
P	Phase sequence control of motor supply circuit with value control	WITHOUT
P	Value control relay of control circuit supply voltage	WITHOUT
P	MDU disabled when diverter switch oil temperature is below -25°C	WITHOUT
P	MDU box door is open	WITHOUT
P	Diverter switch oil temperature	4-20 mA
P	Temperature inside the MDU box	4-20 mA
P	Signal for Local	1NC
P	Signal for Remote	1NO
P	Signal for hand crank	WITHOUT

Position indication signals of MDU

F	1 st contact row	6Ω
P	2nd contact row	WITHOUT
P	Additional resistor to first and second contact row (0,25 W)	WITHOUT
P	NO contact type "break-before-make"	WITHOUT
P	NO contact type "make-before-break"	WITHOUT
P	Analogue output 4-20 mA	WITHOUT
P	Other analogue output type *	OHM -
P	BCD code output	WITHOUT
P	BIN code output	WITHOUT
P	GRAY code output	WITHOUT

VOLTA P**MDU DATA****MDU Accessories**

P	Digital remote position indicator-analogue input signal	4-20mA			
P	Digital remote position indicator-coded input signal	WITHOUT			
P	Remote control unit	WITHOUT			
P	Local electrical indication for switching in progress	WITHOUT			
P	Automatic voltage regulator	WITHOUT			
P	Monitoring system	WITHOUT		Please specify model/producer	
P	MDU box with padlock	WITHOUT			
P	MDU electrically insulated from transformer tank	WITHOUT			
	Distance between opening	350x520mm			
	Drive shafts general data	Arrangement		According to attachment No.	
		Variant		According to attachment No.	
P	Slotted cardan couplers *in case the bevel gearbox is fixed before shaft installation	WITHOUT			
	Drive shaft dimensions (MM)	A=	LX=	LX=	LX=
		B=	LB=	LB=	LB=
			LB`=	LB`=	LB`=

Comments

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