

技术数据

VACUTAP® VM® , VM 300 , VMS®. 有载分接开关

2332907/06 ZH



© Maschinenfabrik Reinhausen 保留所有权利

本文件未经明确授权不得擅自复印、分发和使用，也不得告知他人文件内容。

违者需负赔偿责任。保留所有专利、实用新型和外观设计注册的权利。

上述文件编辑定稿之后，产品可能发生变更。

明确保留对技术数据、设计以及供货范围进行变更的权利。

原则上，在处理相应报价和订单时所提供的信息和相关约定都具有约束力。

原版使用说明书采用德语编制。

目录

1 简介	4	4.2.13 10117022	43
1.1 有载分接开关标识.....	4	4.2.14 765192	44
1.1.1 有载分接开关类型标识示例	4	4.2.15 768698	45
1.1.2 级数和基本连接.....	4	4.2.16 769225	46
1.2 有载分接开关设计.....	5	4.2.17 769226	47
1.3 基本连接.....	5	4.2.18 768851	48
2 技术数据	9	4.3 有载分接开关头	49
2.1 有载分接开关属性.....	9	4.3.1 893899	50
2.2 容许的环境条件	12	4.3.2 720026	51
2.3 级容量曲线图	12	4.3.3 720027	52
2.3.1 VACUTAP® VM 和 VM 300 电网应用的级 容量曲线图	13	4.3.4 896762	53
2.3.2 VACUTAP® VM® 和 VM 300 电弧炉运 行的级容量曲线图.....	14	4.3.5 893896	54
2.3.3 VACUTAP® VMS III 电网应用的级容量曲 线图.....	15	4.3.6 895168	55
2.4 允许的电压应力.....	16	4.3.7 766161	56
2.4.1 不带多插头粗级转换选择器的绝缘间距.....	16	4.4 油室.....	57
2.4.2 带多插头粗级转换选择器的绝缘间距.....	19	4.4.1 730336	58
2.4.3 可实现的连接	21	4.5 分接选择器.....	59
3 特殊设计	23	4.5.1 890477	60
3.1 选择器层的并联联片.....	23	4.5.2 898013	61
3.2 用于角形接法的有载分接开关组合.....	23	4.5.3 730335	62
3.3 带有多抽头粗级转换选择器的 VACUTAP® VM III 650 Y...VM I 1503 (最多可达 5 个粗级分 接)	24	4.5.4 723590	63
3.4 两相有载分接开关 VACUTAP® VM II 302/352/502/652	24	4.5.5 891108	64
3.5 用于与开放中性点进行星结法连接的有载分接开 关	24	4.5.6 891110	65
4 图纸	25	4.5.7 891109	66
4.1 类型概览	25	4.5.8 891107	67
4.1.1 899740	26	4.5.9 725649	68
4.1.2 10117026	27	4.5.10 893934	69
4.1.3 765835	28	4.5.11 893935	70
4.2 安装外形尺寸图	29	4.5.12 899598	71
4.2.1 746221	30	4.5.13 898804	72
4.2.2 746227	31	4.5.14 719733	73
4.2.3 746222	32	4.5.15 898690	74
4.2.4 746228	33	4.5.16 898691	75
4.2.5 746223	34	4.5.17 898692	76
4.2.6 746229	35	4.5.18 10117025	77
4.2.7 746220	36	4.5.19 10117029	78
4.2.8 746219	37	4.5.20 10116563	79
4.2.9 746224	38	4.5.21 898041	80
4.2.10 746226	39	4.5.22 891114	81
4.2.11 10116560	40	4.5.23 898695	82
4.2.12 746230	41	4.5.24 898694	83
		4.5.25 898693	84
		4.6 接线图 (示例)	85
		4.6.1 SBI_2414658	86
		4.6.2 SBI_2414670	87
		4.6.3 SBI_2414631	88
		4.6.4 SBI_2407535	89
		4.6.5 SBI_2414636	90
		4.6.6 SBI_6228951	91
		4.6.7 SBI_6228952	92

1 简介

本技术文件中包含了关于本产品技术特性的详细信息。基本信息请参见“技术数据 (TD 61) - 通用部分”

1.1 有载分接开关标识

有些型号提供了各种类型的有载分接开关，这些有载分接开关具有不同的相数、最大额定通过电流、设备最高工作电压 U_m 、分接选择器等级及基本接线图。特殊有载分接开关设计的标识取决于这些特点，因此应确保不会弄错且不可互换的有载分接开关标识。

1.1.1 有载分接开关类型标识示例

有载分接开关 VACUTAP® VM III 650 Y-72,5 / C-10 19 1W R。

类型标识	VACUTAP® VM III 650 Y-72,5 / C-10 19 1W R
VACUTAP® VM®	有载分接开关类型
III	相数
650	单相分接开关的最大额定通过电流 I_{um} (A) 和装配扇形件数 (最后一位数)
Y	用于中性点
72.5	设备最高工作电压 U_m (kV)
C	分接选择器等级
10 19 1W R	基本连接方式

表 1: 有载分接开关的标识示例

1.1.2 级数和基本连接

分接选择器可以在很大程度上适应所需级数和分接绕组连接。基本连接在分接选择器划分、工作位置数、中间位置数、转换选择器型号和电位连接类型这些方面有所不同。

示例：10 19 1 WR

基本连接方式的标识	10 19 1 WR
10	分接选择器触头圆节距
19	最大工作位置数
1	中间位置数
W	转换选择器设计： W = 极性转换选择器 G = 粗级分接
R	电位连接类型： R = 附加连接电阻 S = 板载电位开关和连接电阻 P = 带有附加连接电阻的电位开关

表 2: 基本连接的标识示例

1.2 有载分接开关设计

关于有载分接开关设计概述的信息，请参见类型概述 [►部分 4.1, 页 25]部分。

1.3 基本连接

以下为带有符合 MR 标准的分接选择器端子标识的有载分接开关基本连接示例。关于实际可实现的连接，请参见“允许的电压应力”部分。

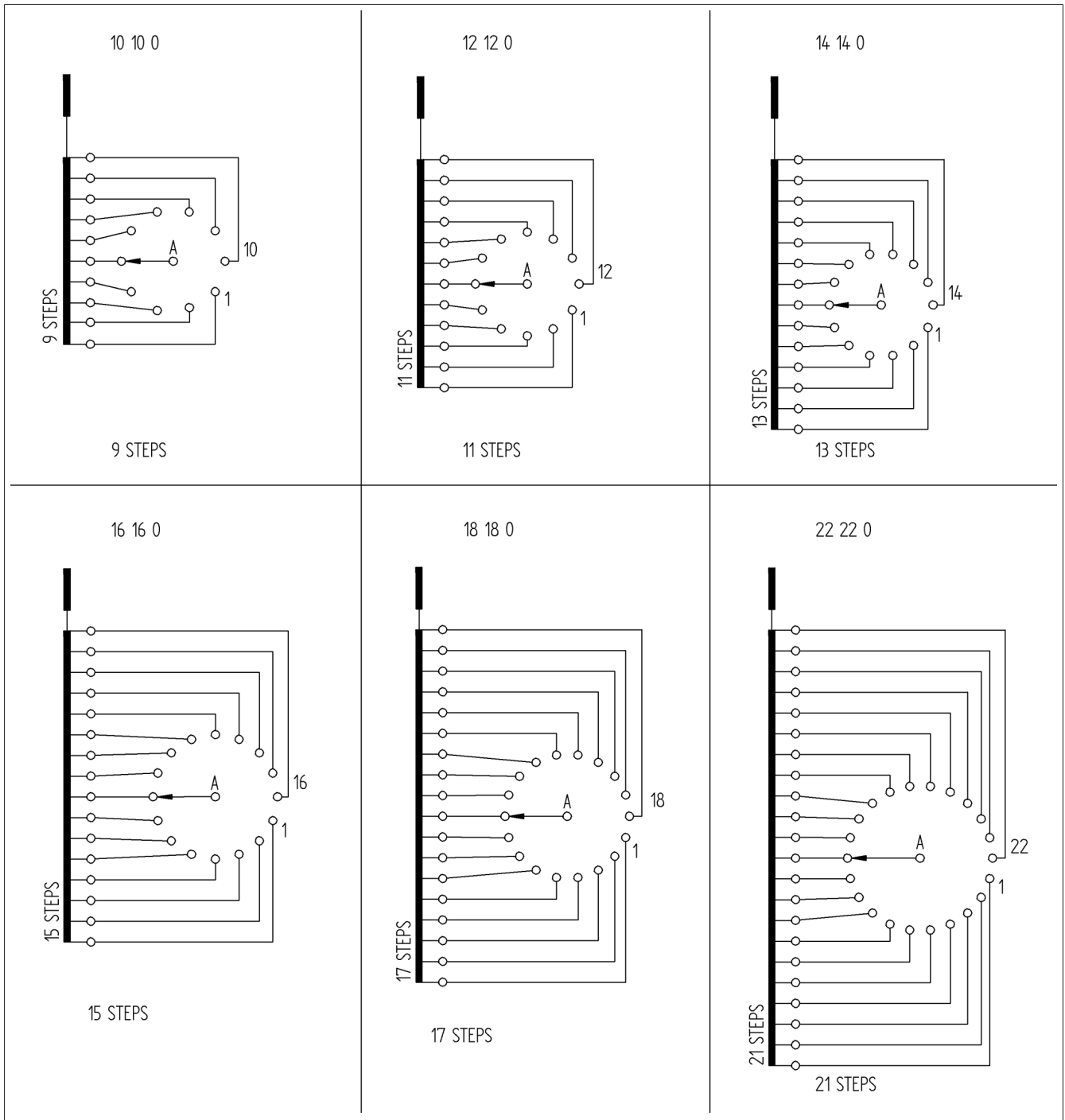


插图 1: 不带转换选择器的基本连接，VACUTAP® VM® I II III 和 VACUTAP® VMS® III，分接选择器等级 C

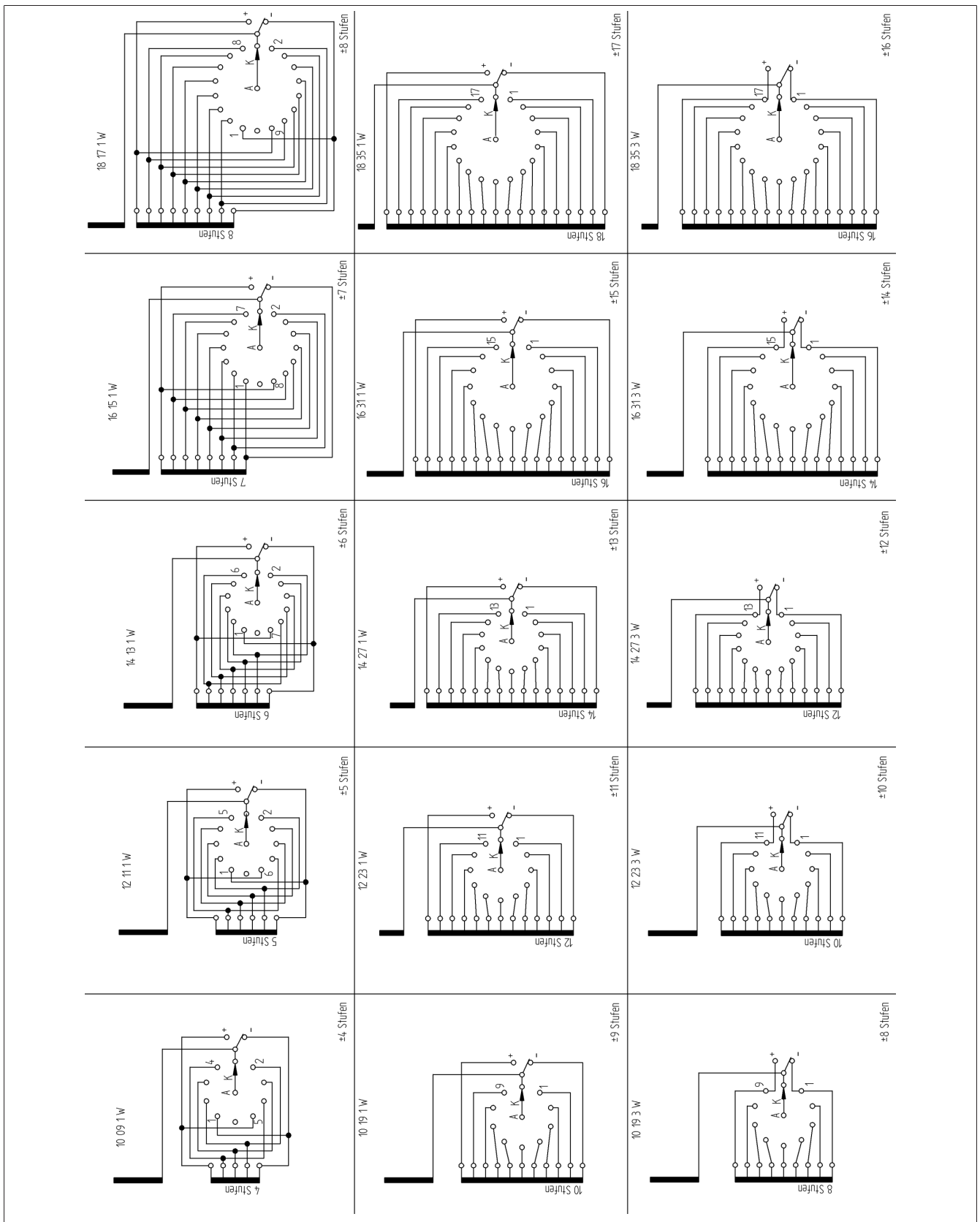


插图 2: 用于极性转换细级分接选择器连接的基本连接, VACUTAP® VM® I II III 和 VACUTAP® VMS® III, 分接选择器等级 C

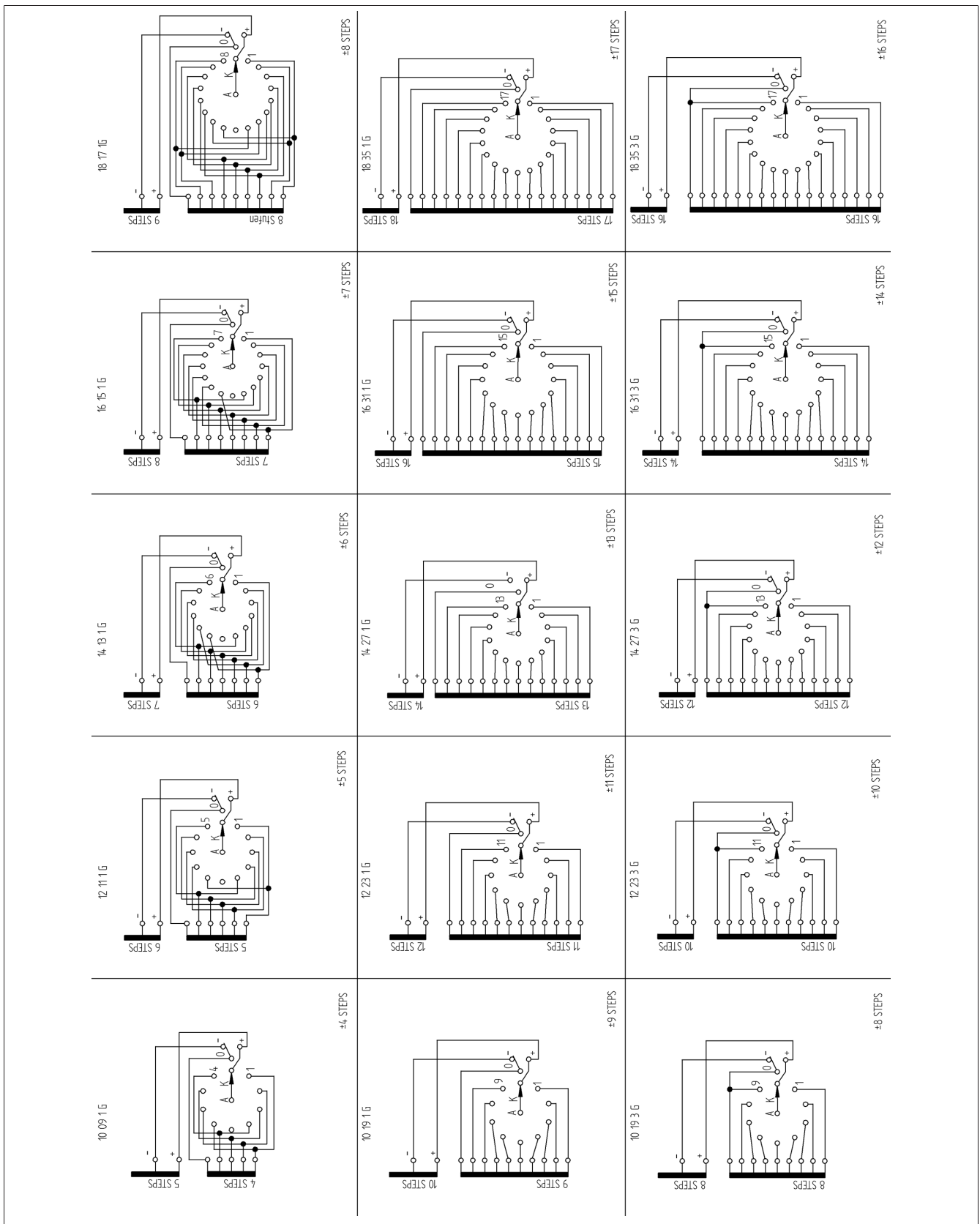


插图 3: 用于粗级分接选择器连接的基本连接, VACUTAP® VM® I II III 和 VACUTAP® VMS® III, 分接选择器等级 C

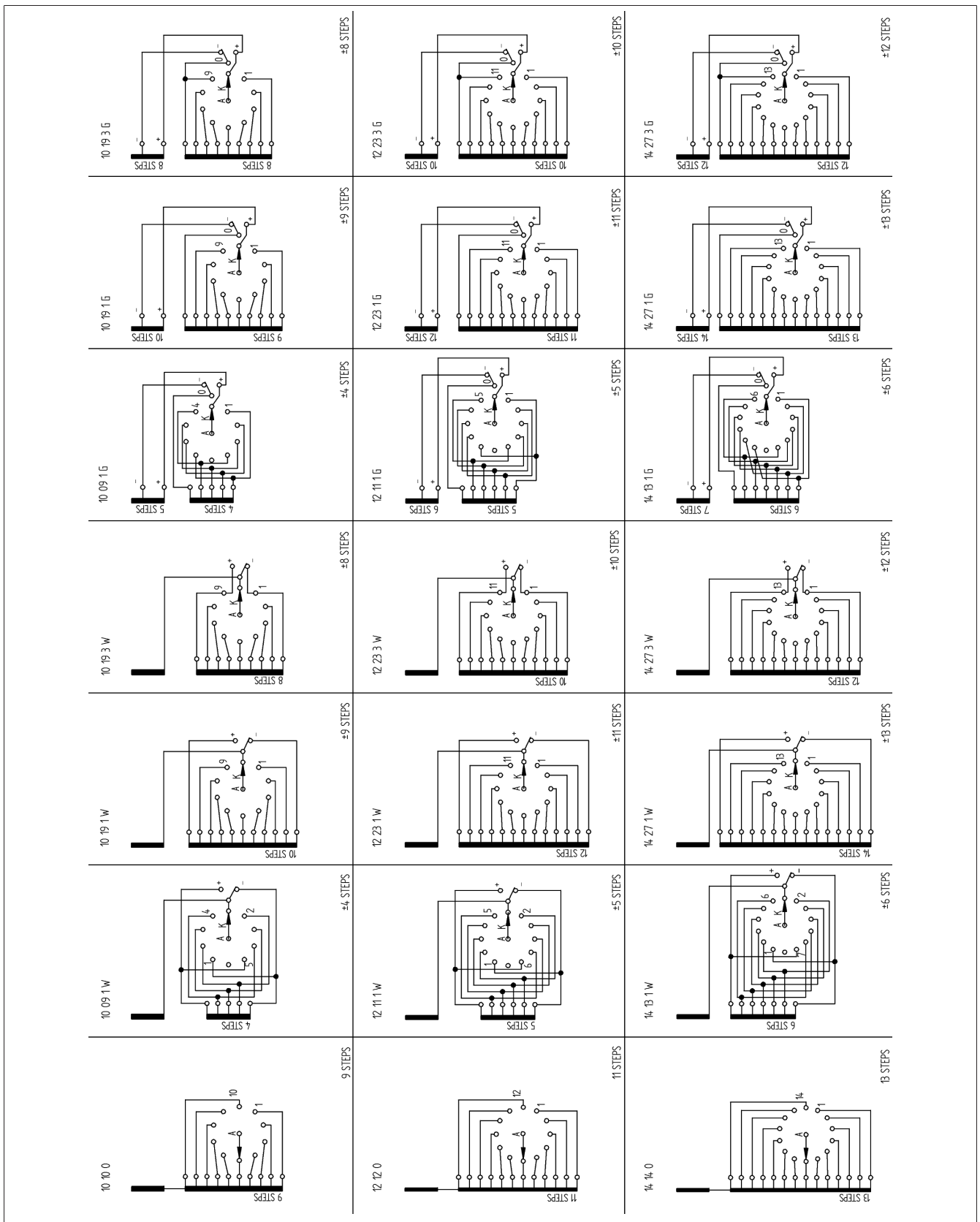


插图 4: 基本连接, VACUTAP® VM 300 和 VACUTAP® VMS® III, 分接选择器等级 B

2 技术数据

2.1 有载分接开关属性

VACUTAP® VM 的电气数据

有载分接开关	VM I 351	VM I 501	VM I 651	VM I 802	VM I 1002	VM I 1203	VM I 1503
最大额定通过电流 I_{rm} [A]	350	500	650	800	1 000	1 200	1 500
额定短时耐受电流 [kA]	4.2	5	6.5	8	10	12	15
额定短路持续时间 [s]	3						
额定峰值耐受电流 [kA]	10.5	12.5	16.25	20	25	30	37.5
最大额定级电压 U_{irm} [V] ¹⁾	3 300						
级容量 P_{stN} [kVA]	1 155	1 625	1 625	2 600	2 600	3 500	3 500
额定频率 [Hz]	50..60						

表 3: VACUTAP® VM I 的电气数据

有载分接开关	VM II 352	VM II 502	VM II 652
最大额定通过电流 I_{rm} [A]	350	500	650
额定短时耐受电流 [kA]	4.2	5	6.5
额定短路持续时间 [s]	3		
额定峰值耐受电流 [kA]	10.5	12.5	16.25
最大额定级电压 U_{irm} [V] ¹⁾	3 300		
级容量 P_{stN} [kVA]	1 155	1 625	1 625
额定频率 [Hz]	50..60		

表 4: VACUTAP® VM II 的电气数据

有载分接开关	VM III 350 Y	VM III 500 Y	VM III 650 Y
最大额定通过电流 I_{rm} [A]	350	500	650
额定短时耐受电流 [kA]	4.2	5	6.5
额定短路持续时间 [s]	3		
额定峰值耐受电流 [kA]	10.5	12.5	16.25
最大额定级电压 U_{irm} [V] ¹⁾	3 300		
级容量 (P_{stN}) [kVA]	1 155	1 625	1 625
额定频率 [Hz]	50..60		

表 5: VACUTAP® VM III 的电气数据

¹⁾ 如果级容量的上限为其额定值，则由于变压器的过激磁，最大额定级电压可能会超过其额定值的 10%。

VACUTAP® VM 300 的电气数据

有载分接开关	VM I 301/VM II 302/VM III 300 Y
最大额定通过电流 I_{Im} [A]	300
额定短时耐受电流 [kA]	4
额定短路持续时间 [s]	3
额定峰值耐受电流 [kA]	10
最大额定级电压 U_{im} [V] ¹⁾	3 300
级容量 P_{StN} [kVA]	990
额定频率 [Hz]	50..60

表 6: VACUTAP® VM 300 的电气数据

¹⁾ 如果级容量的上限为其额定值，则由于变压器的过激磁，最大额定级电压可能会超过其额定值的 10%。

VACUTAP® VMS® 的电气数据

有载分接开关	VMS III 400 Y	VMS III 650 Y
最大额定通过电流 I_{Im} [A]	400	650
额定短时耐受电流 [kA]	4	6.5
额定短路持续时间 [s]	3	
额定峰值耐受电流 [kA]	10	16.25
最大额定级电压 U_{im} [V] ¹⁾	1 300	
级容量 (P_{StN}) [kVA]	520	845
额定频率 [Hz]	50..60	

表 7: VACUTAP® VMS® III (分接选择器等级 C) 的电气数据

有载分接开关	VMS III 400 Y
最大额定通过电流 I_{Im} [A]	400
额定短时耐受电流 [kA]	4
额定短路持续时间 [s]	3
额定峰值耐受电流 [kA]	10
最大额定级电压 U_{im} [V] ¹⁾	1 300
级容量 (P_{StN}) [kVA]	520
额定频率 [Hz]	50..60

表 8: VACUTAP® VMS® III (分接选择器等级 B) 的电气数据

¹⁾ 如果级容量的上限为其额定值，则由于变压器的过激磁，最大额定级电压可能会超过其额定值的 10%。

VACUTAP® VM 的机械数据

工作位置数	不带转换选择器：最大值为 18 带有转换选择器：最大值为 35 带有多插头粗级分接选择器：最大值为 107
装配的扇形件数	1...3
分接选择器等级	B、C、D、DE (不带多插头粗级分接选择器)
尺寸	请参见安装外形尺寸图
重量	
占据体积和油量	

表 9: VACUTAP® VM I II III 的机械数据

VACUTAP® VM 300 的机械数据

工作位置数	不带转换选择器：最大值为 14 带转换选择器：最大值为 27
装配的扇形件数	1...3
分接选择器等级	B
尺寸	请参见安装外形尺寸图
重量	
占据体积和油量	

表 10: VACUTAP® VM I 301 / VM II 302 / VM III 300 Y 的机械数据

VACUTAP® VMS® 的机械数据

工作位置数	不带转换选择器：最大值为 18 带有转换选择器：最大值为 35
装配的扇形件数	3
分接选择器等级	C
尺寸	请参见安装外形尺寸图
重量	
占据体积和油量	

表 11: VACUTAP® VMS® III (分接选择器等级 C) 的机械数据

工作位置数	不带转换选择器：最大值为 14 带有转换选择器：最大值为 27
装配的扇形件数	3
分接选择器等级	B
尺寸	请参见安装外形尺寸图
重量	
占据体积和油量	

表 12: VACUTAP® VMS® III (分接选择器等级 B) 的机械数据

2.2 容许的环境条件

工作期间的空气温度	-25°C...+50°C
工作期间的隔离液温度	-25°C...+105°C (当变压器处于紧急运行状态时,最高可达 +115°C)
运输温度, 存储温度	-40°C...+50°C
干燥温度	参见安装和调试说明书中的“安装”一章
抗压强度	参见技术数据 TD 61 – 通用部分
绝缘液	<ul style="list-style-type: none">– 未使用的绝缘油源自石油产品¹⁾, 符合标准 IEC60296 和 ASTM D3487 (按要求提供同等标准)– 未使用的绝缘油源自未经处理的碳氢化合物, 符合标准 IEC60296, 或绝缘油与石油产品¹⁾的混合物, 符合标准 IEC60296 和 ASTM D3487, 或按要求提供同等标准– 天然酯及合成酯或硅油等替代绝缘液按要求提供。 <p>¹⁾天然气合成油 (GTL 油) 在此视为石油产品</p>
储油柜的安装高度	参见技术数据 TD 61 – 通用部分
安装海拔高度	参见技术数据 TD 61 – 通用部分

表 13: 允许的环境条件

2.3 级容量曲线图

2.3.1 VACUTAP® VM 和 VM 300 电网应用的级容量曲线图

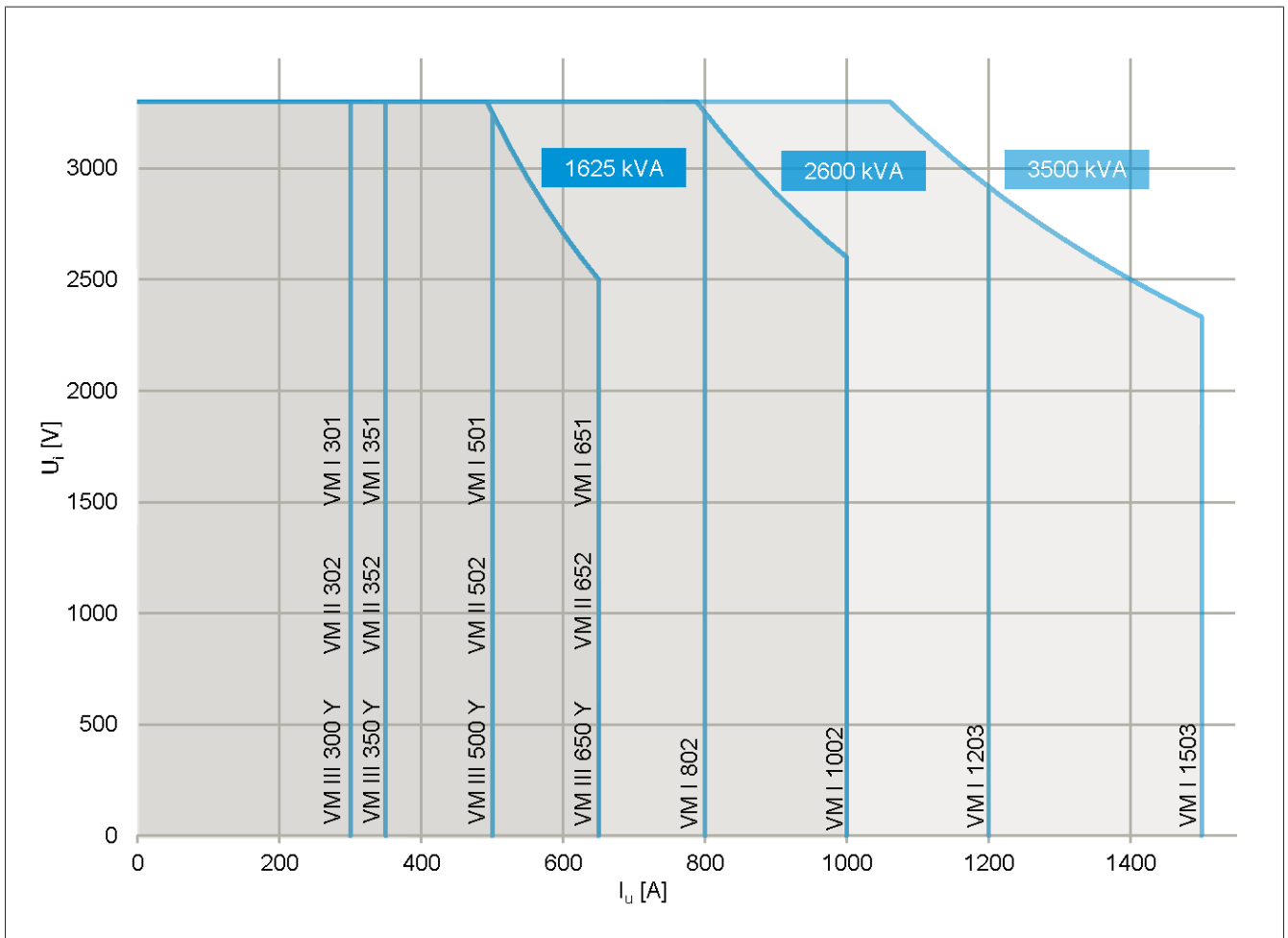


插图 5: 级容量 (额定级电压 U_r 和额定通过电流 I_r)

2.3.2 VACUTAP® VM® 和 VM 300 电弧炉运行的级容量曲线图

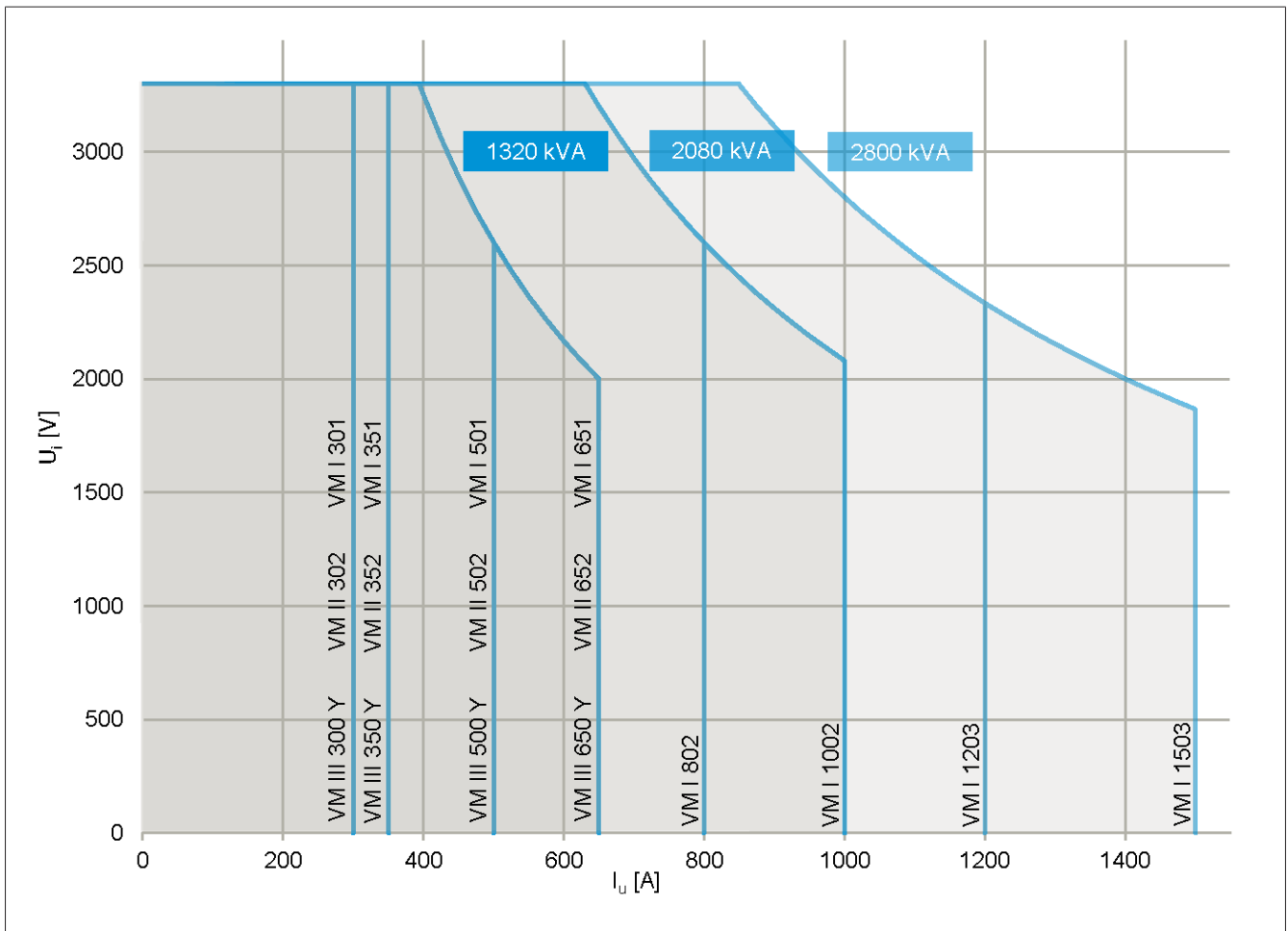


插图 6: 级容量 (额定级电压 U_r 和额定通过电流 I_r)

2.3.3 VACUTAP® VMS III 电网应用的级容量曲线图

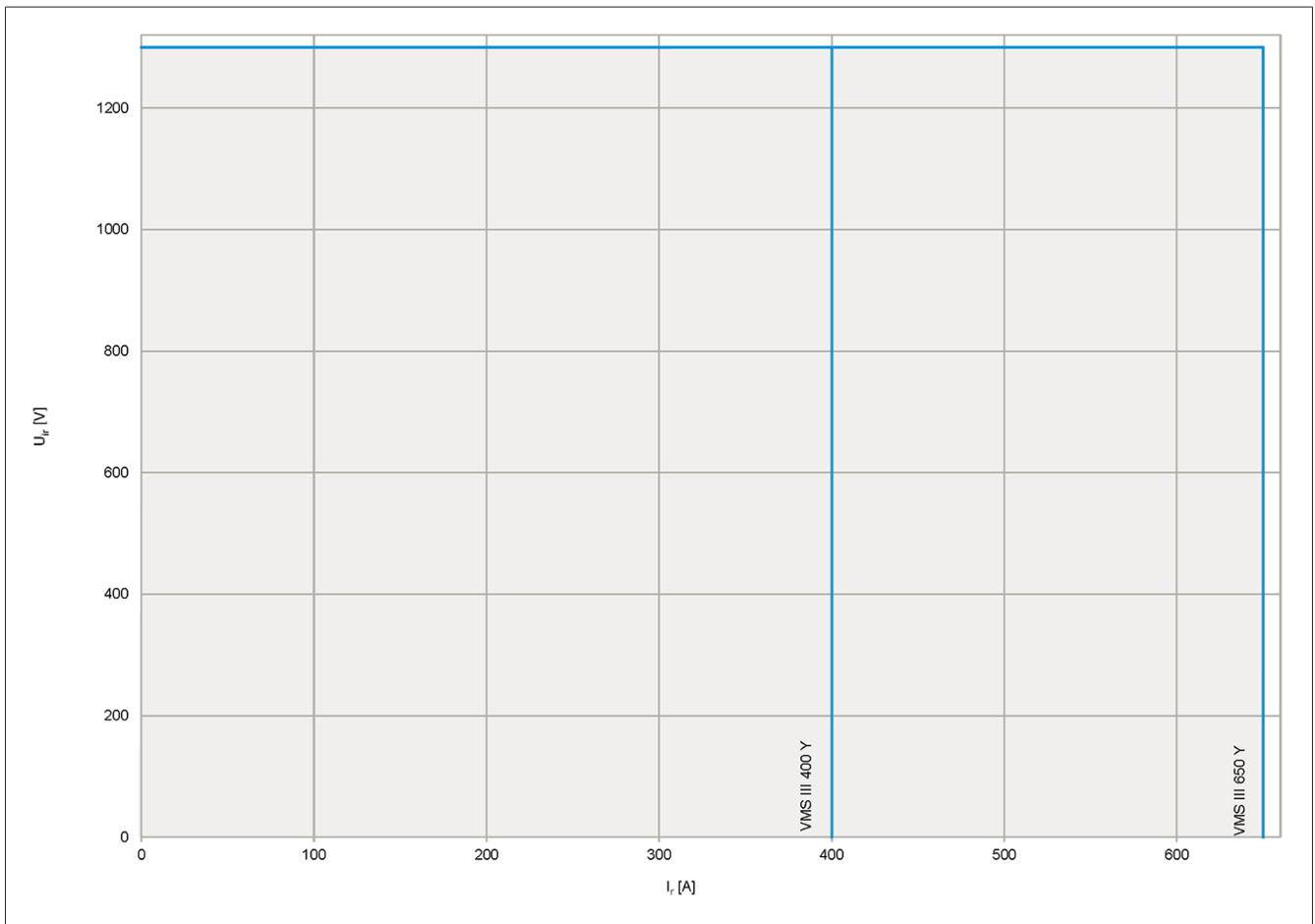


插图 7: 级容量 (额定级电压 U_r 和额定通过电流 I_r)

2.4 允许的电压应力

本节介绍有载分接开关上容许的电压应力。

选择有载分接开关时，必须检查绝缘间距处的最高电压强度不得超过相关额定耐受电压。

2.4.1 不带多插头粗级转换选择器的绝缘间距

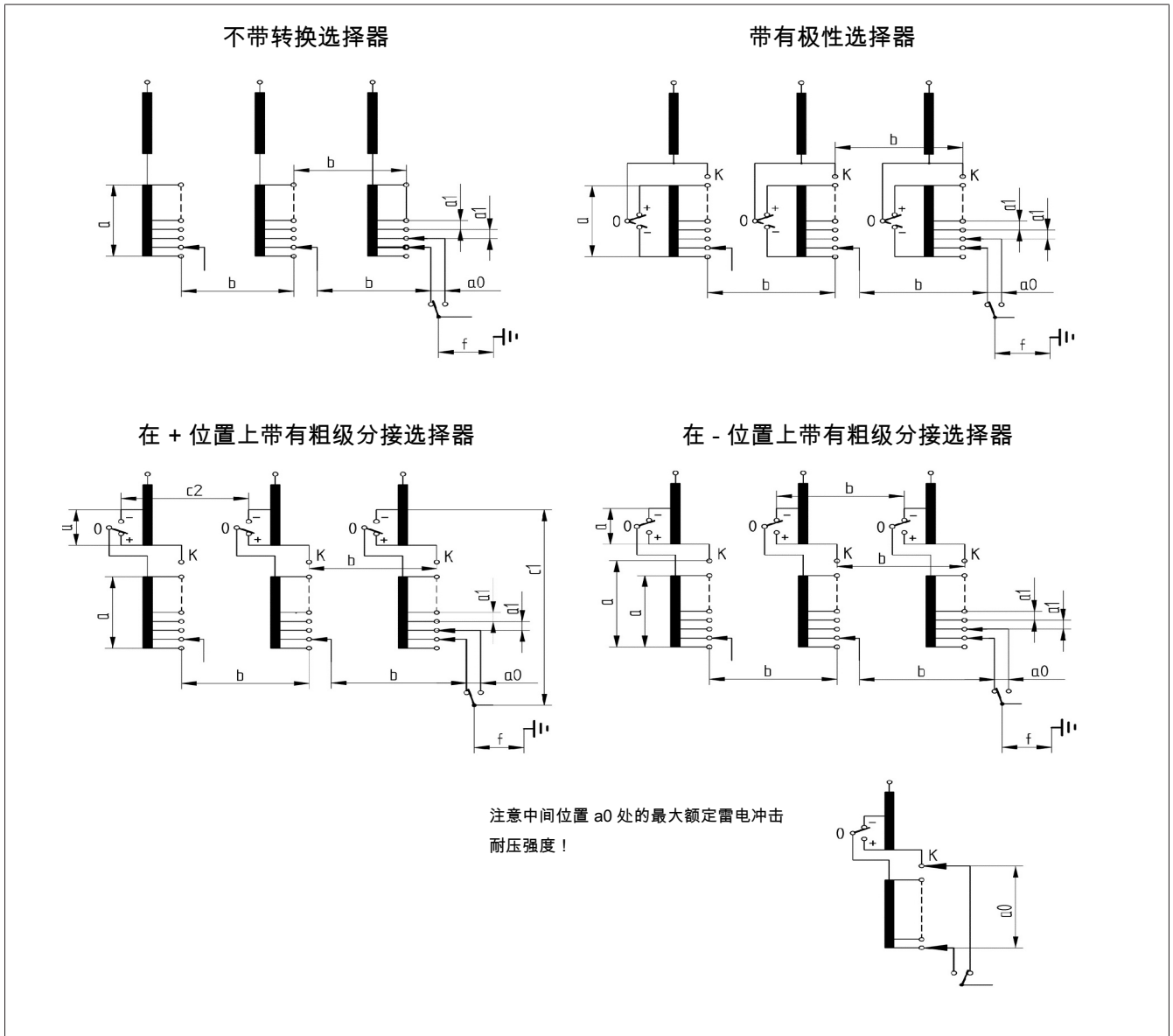


插图 8: 绝缘间距

a0	在切换开关上的已选定和预选定分接头之间
a1	在一个分接位置绕组的分接选择器端子（已连接或未连接）之间
a	在分接绕组的起点和终点之间，对于粗调分接绕组型号，也在粗调分接绕组的起点和终点之间。 请注意转换选择器位置 (-) 的粗级分接选择开关： 特别是当施加冲击电压时，与 K 细级分接选择器端子相连接的粗调分接绕组终点和同相分接绕组终点的细级分接选择器端子之间允许的耐压“a”必须符合要求。
b	在异相分接选择器端子之间和异相转换选择器端子之间，这些端子与分接绕组或分接选择器端子的起点/终点相连接

f	在切换开关输出端子和地面之间
此外，对于转换选择器的位置 (+) 上的粗级分接选择开关：	
c1	从一个 (-) 转换选择器的触头到同相的引出端子
c2	在异相的转换选择器的触头 (-) 之间

额定绝缘水平的缩写：

LI	全波雷电冲击 (kV, 1.2/50 μ s)
LIC	截波雷电冲击 (kV, 1.2/50/3 μ s)
SI	开关冲击 (kV, 250/2500 μ s)
交流	外加电压 (kV, 50 Hz, 1 min)

切换开关的额定绝缘水平

绝缘间距 f				
U_m ¹⁾	LI	LIC	SI	交流
72.5	350	385	-	140
123	550	605	460	230
170	750	825	620	325
245 ²⁾	1 050	1 155	850	460
300 ²⁾³⁾	1 050	1 155	850	460

表 14: 切换开关的额定绝缘水平

¹⁾ 根据 IEC 60214-1：三相系统中有载分接开关的相间电压最高有效值在设计时已考虑到了它的绝缘性。

²⁾ VACUTAP® VMS® 仅最高达 $U_m=170$ kV

³⁾ 仅单相分接开关

分接选择器内绝缘的额定绝缘水平，VACUTAP® VM® I II III (分接选择器等级 B、C、D、DE) 和 VACUTAP® VMS® III (分接选择器等级 C)，不带多插头粗级分接选择器

各个分接选择器间距可允许的最大工作电压与以下所列的外加电压 (AC) 的半值相对应。

绝缘间距		分接选择器等级			
		B	C	D	ZH
a0	LI	150 ²⁾			150 ²⁾
	LIC	165 ²⁾			165 ²⁾
	SI	100 ²⁾			100 ²⁾
	交流	20			20
a1	LI	150			150
	LIC	165			165
	SI	100			100
	交流	30			30

绝缘间距		分接选择器等级			
		B	C	D	ZH
a	LI	265	350	490	550
	LIC	295	385	540	605
	SI	175	230	320	360
	交流	50	82	105	120
b1 ¹⁾	LI	265	350	490	550
	LIC	295	385	540	605
	SI	175	230	320	360
	交流	50	82	146	160
c1	LI	485	545	590	660
	LIC	535	600	650	725
	SI	315	355	385	430
	交流	143	178	208	230
c2 ¹⁾	LI	495	550	590	660
	LIC	545	605	650	725
	SI	325	360	385	430
	交流	150	182	225	250

表 15: 分接选择器内绝缘的额定绝缘水平

¹⁾ 不适用于单相分接开关

²⁾ 雷电冲击为 1.2/50 μs 时，压敏电阻响应电压为：起始电压 45 kV
($U_{100\%}(t)_{\text{standardized}} \neq U_{75\%}(t)_{\text{standardized}}$)，峰值耐受电流为 3 kA 时，残压为：56 kV

分接选择器内绝缘的额定绝缘水平，VACUTAP® VM 300 和 VACUTAP® VMS® III (分接选择器等级 B)，不带多插头粗级分接选择器

各个分接选择器间距可允许的最大工作电压与以下所列的外加电压 (AC) 的半值相对应。

绝缘间距		分接选择器等级 B
a0	LI	150 ¹⁾
	LIC	165 ¹⁾
	SI	100 ¹⁾
	交流	20
a	LI	300
	LIC	330
	SI	195
	交流	70

绝缘间距		分接选择器等级 B
b	LI	300
	LIC	330
	SI	195
	交流	70
c1	LI	400
	LIC	440
	SI	260
	交流	120
C2	LI	400
	LIC	440
	SI	260
	交流	120

表 16: 分接选择器内绝缘的额定绝缘水平

¹⁾ 雷电冲击为 1.2/50 μ s 时, 压敏电阻响应电压为: 起始电压 45 kV ($U_{100\%}(t)_{\text{standardized}} \neq U_{75\%}(t)_{\text{standardized}}$), 峰值耐受电流为 3 kA 时, 残压为: 56 kV

2.4.2 带多插头粗级转换选择器的绝缘间距

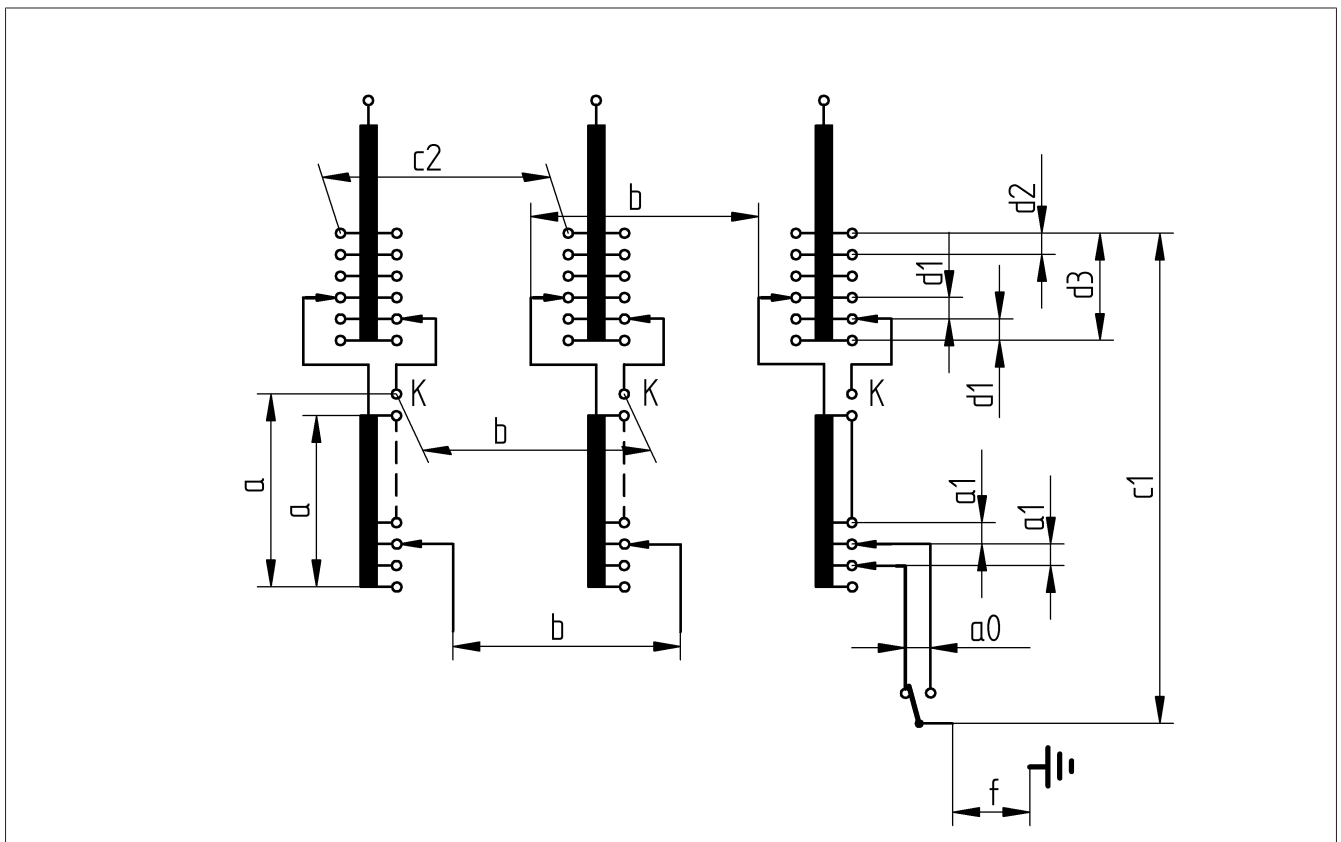


插图 9: VACUTAP® VM® I II III (分接选择器等级 B、C、D) 的绝缘间距, 带多插头粗级转换选择器

a0	在切换开关上的已选定和预选定分接头之间
a1	在一个分接位置绕组的分接选择器端子（已连接或未连接）之间
a	在分接绕组的起点和终点之间，和在已连接的 K 触头与同相的分接绕组任意点之间
b	在异相的分接选择器端子之间，和在一相的已连接的 K 触头与另一相的分接绕组任意点之间
c1	在一相的任意粗级分接头与同相的切换开关输出端子之间
c2	在异相的相同命名且未连接的粗级分接头之间
d1	在一相已连接且相邻的粗调分接触头之间
d2	在一相未连接且相邻的粗调分接触头之间
d3	在一相的所有粗级分接的起点和终点之间
f	在切换开关输出端子和地面之间

有关绝缘间距 f，请参见切换开关的额定绝缘水平。

**分接选择器内绝缘的额定绝缘水平（带多插头粗级转换选择器），
VACUTAP® VM® I II III（分接选择器等级 B、C、D）**

各个分接选择器间距可容许的最大工作电压与以下所列的外加电压 (AC) 的半值相对应。

绝缘间距		分接选择器等级		
		B	C	D
a0	LI	150 ²⁾		
	LIC	165 ²⁾		
	SI	100 ²⁾		
	AC	20		
a1	LI	150		
	LIC, SI	要求的值		
	AC	30		
a	LI	265	350	450
	LIC, SI	要求的值		
	AC	50	82	105
b ¹⁾	LI	265	350	450
	LIC, SI	要求的值		
	AC	50	82	146
c1	LI	455	525	590
	LIC, SI	要求的值		
	AC	127	165	210
c2 ¹⁾	LI	455	525	590
	LIC, SI	要求的值		
	AC	127	165	215
d1	LI	265	350	450
	LIC, SI	要求的值		
	AC	50	82	105

绝缘间距		分接选择器等级		
		B	C	D
d2	LI	350	450	450
	LIC, SI	要求的值		
	AC	82	105	105
d3	LI	350	450	490
	LIC, SI	要求的值		
	AC	82	105	120

表 17: 分接选择器内绝缘的额定绝缘水平 (带有多插头粗级转换选择器)

¹⁾ 不适用于单相分接开关

²⁾ 雷电冲击为 1.2/50 μs 时, 压敏电阻响应电压为: 起始电压 45 kV ($U_{100\%}(t)_{\text{standardized}} \neq U_{75\%}(t)_{\text{standardized}}$), 峰值耐受电流为 3 kA 时, 残压为: 70 kV

2.4.3 可实现的连接

可实现的符合相应 VACUTAP® VM® I II III 分接选择器等级的连接

可以为带有极性选择器和 3 个中间位置 (3W) 的转换选择器, 以及带有粗级分接和 3 个中间位置 (3G) 的转换选择器执行以下所列连接。

不带转换选择器		带有极性选择器		带有粗级分接选择器	
分接变换操作	分接选择器等级	分接变换操作	分接选择器等级	分接变换操作	分接选择器等级
10050	B/C/D/DE	10071W	B/C/D/DE	10071G	B/C/D/DE
10060	B/C/D/DE	10081W	B/C/D/DE	10081G	B/C/D/DE
10070	B/C/D/DE	10091W	B/C/D/DE	10091G	B/C/D/DE
10080	B/C/D/DE	12101W	B/C/D/DE	12101G	B/C/D/DE
10090	B/C/D/DE	12111W	B/C	12111G	B/C
10100	B/C/D/DE	14111W	D/DE	14111G	D/DE
12110	B/C/D/DE	14121W	B/C	14121G	B/C
12120	B/C/D/DE	14131W	B/C	14131G	B/C
14130	B/C/D/DE	16121W	D/DE	16121G	D/DE
14140	B/C/D/DE	16131W	D/DE	16131G	D/DE
16150	B/C/D/DE	16141W	B/C/D/DE	16141G	B/C/D/DE
16160	B/C/D/DE	16151W	B/C	16151G	B/C
18170	B/C/D/DE	18151W	D/DE	18151G	D/DE
18180	B/C/D/DE	18161W	B/C	18161G	B/C
22190	B/C/D/DE	18171W	B/C	18171G	B/C
22200	B/C/D/DE	10191W	B/C/D/DE	10191G	B/C/D/DE
22210	B/C	12231W	B/C/D/DE	12231G	B/C/D/DE
22220	B/C	14271W	B/C/D/DE	14271G	B/C/D/DE

不带转换选择器		带有极性选择器		带有粗级分接选择器	
分接变换操作	分接选择器等级	分接变换操作	分接选择器等级	分接变换操作	分接选择器等级
		16311W	B/C/D/DE	16311G	B/C/D/DE
		18351W	B/C/D/DE	18351G	B/C/D/DE

表 18: VACUTAP® VM® I II III 可实现的连接

VACUTAP® VMS® III (分接选择器等级 C) 可实现的连接

可以为带有极性选择器和 3 个中间位置 (3W) 的转换选择器，以及带有粗级分接和 3 个中间位置 (3G) 的转换选择器执行以下所列连接。

不带转换选择器的连接	带有极性选择器的连接	带有粗级分接选择器的连接
10050	10071W	10071G
10060	10081W	10081G
10070	10091W	10091G
10080	12101W	12101G
10090	12111W	12111G
10100	14121W	14121G
12110	14131W	14131G
12120	16141W	16141G
14130	16151W	16151G
14140	18161W	18161G
16150	18171W	18171G
16160	10191W	10191G
18170	12231W	12231G
18180	14271W	14271G
	16311W	16311G
	18351W	18351G

表 19: VACUTAP® VMS® III (分接选择器等级 C) 可实现的连接

VACUTAP® VM 300 和 VACUTAP® VMS® III (分接选择器等级 B) 可实现的连接

也可以为带有极性转换选择器和 3 个中间位置 (3W) 的转换选择器，以及带有粗级分接和 3 个中间位置 (3G) 的转换选择器实现标有 ¹⁾ 的连接。

不带转换选择器的连接	带有极性选择器的连接	带有粗级分接选择器的连接
10100	10091W	10091G
12120	12111W	12111G
14140	14131W	14131G
	10191W ¹⁾	10191G ¹⁾
	12231W ¹⁾	12231G ¹⁾
	14271W ¹⁾	14271G ¹⁾

表 20: VACUTAP® VMS® III (分接选择器等级 B) 可实现的连接

3 特殊设计

3.1 选择器层的并联联片

针对仅适用于有载分接开关 VACUTAP® VM I 802/1002 的 2 个选择器层接线端子上的电流细分，和仅适用于有载分接开关 VACUTAP® VM I 1203/1503 的 3 个选择器层接线端子上的电流细分。

如果分接绕组被缠绕成两个或多个支路且每个分支抽头都与分接选择器的端子相连接，则分接选择器端子上的联片为必备项。

此措施可靠地防止了以下几点：

- 均衡电流流入到分接选择器和切换开关的电流回路
- 分接选择器动触头桥上的换向电弧
- 并联的相邻分接选择器端子间的过电压

3.2 用于角形接法的有载分接开关组合

可将单相分接开关和两相有载分接开关结合，来设置变压器绕组在角形接法中的电压。将此两列有载分接开关组称为“VM III K”（“K”在德语中代表组合“Kombination”）。

可使用以下有载分接开关组：

- VM I 301 和 VM II 302
- VM I 351 和 VM II 352
- VM I 501 和 VM II 502
- VM I 651 和 VM II 652

必须提供用于此类组合的分接绕组，如下图所示：

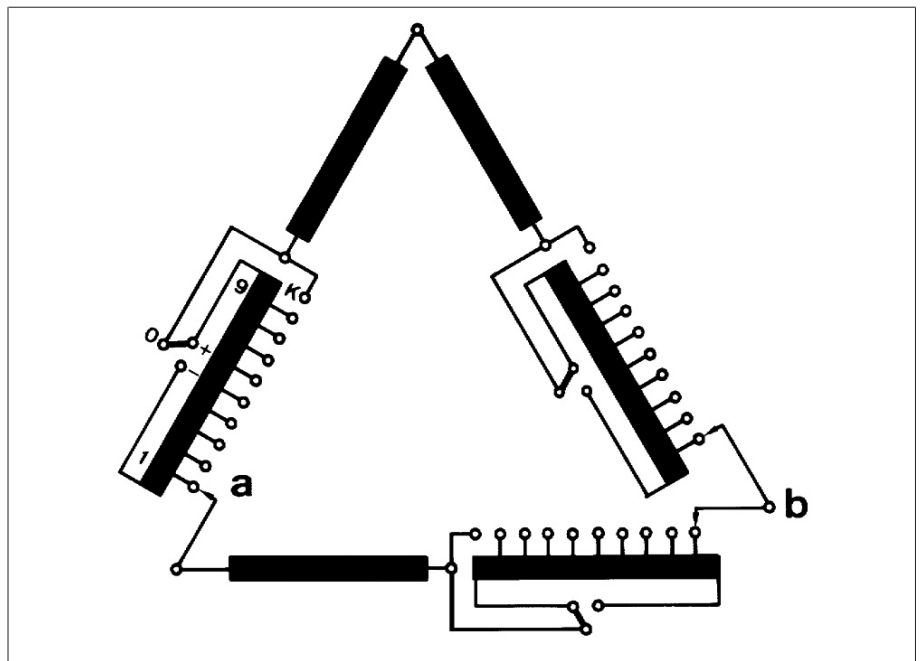


插图 10: 用于角形接法 VM I 351/VM II 352 的有载分接开关组 VM III K (a = VM I 351 , b = VM II 352)

3.3 带有多抽头粗级转换选择器的 VACUTAP® VM III 650 Y...VM I 1503 (最多可达 5 个粗级 分接)

极细级的电压设置需要大量的工作位置，但这些工作位置有时只能使用多个粗级分接头排列来实现。

例如，可通过使用一个带有 5 个分接头的粗调分接绕组和一个带有 18 个分接头的细调分接绕组来获得 107 个工作位置。

多抽头粗级转换选择器连接在分接选择器的两侧。

有载分接开关可用于 $U_m = 72.5$ (最大可达 300 kV) 以及 2...5 个粗级分接 (分接选择器等级 B、C 和 D)。

3.4 两相有载分接开关 VACUTAP® VM II 302/352/502/652

有载分接开关 VM II 302/352/502/652 可作为单相星接的两相有载分接开关提供，其技术数据与有载分接开关 VM III 300 Y、VM III 350 Y、VM III 500 Y 或 VM III 650 Y 的技术数据相同。

3.5 用于与开放中性点进行星结法连接的有载分接开关

如果有载分接开关有开放中性点，则只有电流互感器可以连接到开放中性点。否则中性点将产生过电压，这是不被允许的。

i 切勿连接电抗器。

三个油容器输出的连接 (= 开放中性点)	VACUTAP VM III 300/350/500/650 Y	
有载分接开关外部的电流互感器接口和中性点形成	A) 油容器输出接点间的允许测试电压	
	– 额定雷电冲击耐压	< 140 kV (1.2/50 μ S) ¹⁾
	– 额定交流耐压	1 kV (50 Hz, 1 min)
	B) 油容器输出接点间的最大允许工作电压	1 kV (50...60 Hz)
¹⁾ 雷电冲击为 1.2/50 μ s 时，压敏电阻响应电压为：> 1.4 kV；峰值耐受电流为 1000 A (8/20 μ s) 时，残压为：< 3 kV；压敏电阻的最大允许能量负载 < 100 J		

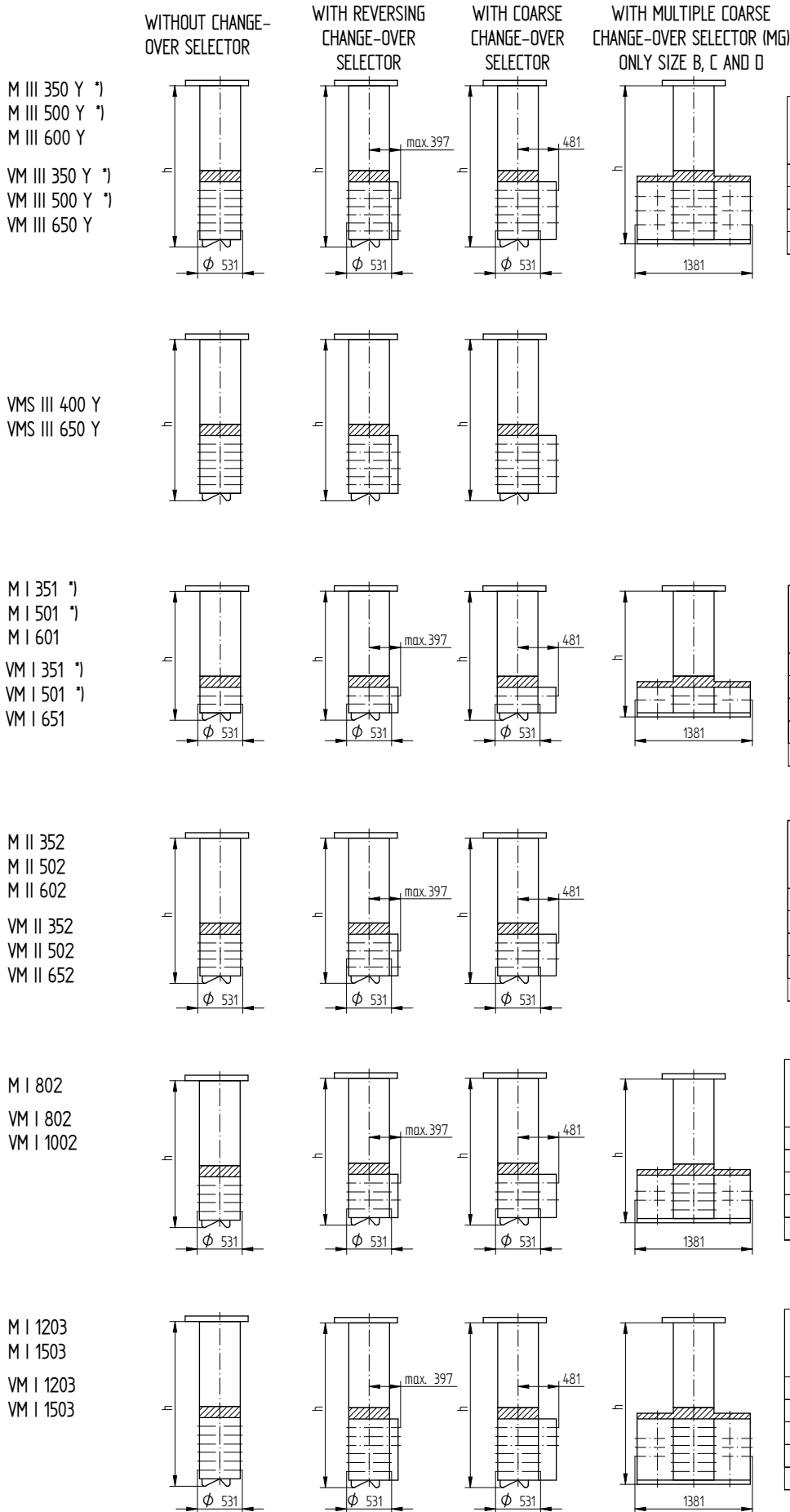
表 21: VACUTAP® VM III 300/350/500/650 Y 的允许测试电压和工作电压

4 图纸

4.1 类型概览

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

DATE	NAME	DOCUMENT NO.
DFTR. 13.07.2018	BUTERUS	SED 1663609 000 04
CHKD. 16.07.2018	WILHELM	SCALE
STAND. 16.07.2018	PRODASTSCHUK	CHANGE NO. 1086956



M III 350 Y *)
 M III 500 Y *)
 M III 600 Y
 VM III 350 Y *)
 VM III 500 Y *)
 VM III 650 Y

VMS III 400 Y
 VMS III 650 Y

M I 351 *)
 M I 501 *)
 M I 601
 VM I 351 *)
 VM I 501 *)
 VM I 651

M II 352
 M II 502
 M II 602
 VM II 352
 VM II 502
 VM II 652

M I 802
 VM I 802
 VM I 1002

M I 1203
 M I 1503
 VM I 1203
 VM I 1503

*) NOT AVAILABLE AS MULTIPLE COARSE CHANGE-OVER SELECTOR (MG)

INSTALLATION LENGTH h IN MM

U _m [kV]	SELECTOR SIZE					
	B		C		D/DE	D
	0/W/G	MG	0/W/G	MG	0/W/G	MG
72.5	1894	1856	2069	2031	2524	2486
123	2024	1986	2199	2161	2654	2616
170	2154	2116	2329	2291	2784	2746
245	2254	2216	2429	2391	2884	2846

U _m [kV]	SELECTOR SIZE	
	C	
	0/W/G	
72.5	2069	
123	2199	
170	2329	

U _m [kV]	SELECTOR SIZE					
	B		C		D/DE	D
	0/W/G	MG	0/W/G	MG	0/W/G	MG
72.5	1514	1476	1589	1551	1784	1746
123	1644	1606	1719	1681	1914	1876
170	1774	1736	1849	1811	2044	2006
245	1874	1836	1949	1911	2144	2106
300	2026	1988	2101	2063	2296	2258

U _m [kV]	SELECTOR SIZE			
	B	C	D/DE	
	0/W/G	0/W/G	0/W/G	
72.5	1704	1829	2154	
123	1834	1959	2284	
170	1964	2089	2414	
245	2064	2189	2514	
300	2216	2341	2666	

U _m [kV]	SELECTOR SIZE					
	B		C		D/DE	D
	0/W/G	MG	0/W/G	MG	0/W/G	MG
72.5	1724	1686	1799	1761	1994	1956
123	1854	1816	1929	1891	2124	2086
170	1984	1946	2059	2021	2254	2216
245	2084	2046	2159	2121	2354	2316
300	2236	2198	2311	2273	2506	2468

U _m [kV]	SELECTOR SIZE					
	B		C		D/DE	D
	0/W/G	MG	0/W/G	MG	0/W/G	MG
72.5	1934	1896	2009	1971	2204	2166
123	2064	2026	2139	2101	2334	2296
170	2194	2156	2269	2231	2464	2426
245	2294	2256	2369	2331	2564	2526
300	2446	2408	2521	2483	2716	2678

DIMENSION IN mm EXCEPT AS NOTED



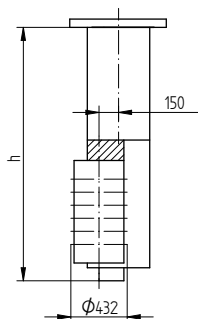
ON-LOAD TAP-CHANGER OILTAP® M / VACUTAP® VM®, VMS®-C
M-SELECTOR SIZE B/C/D/DE
SURVEY OF MODELS

SERIAL NUMBER

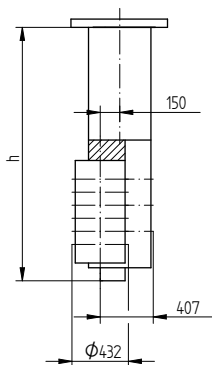
MATERIAL NUMBER 8997404E SHEET 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

WITHOUT
CHANGE-OVER SELECTOR



WITH
CHANGE-OVER SELECTOR



INSTALLATION LENGTH h IN MM

VMS III 400 Y

U _m [kV]	SELECTOR SIZE B
72,5	1942
123	2072
170	2202

DATE	NAME	DOCUMENT NO.
11.07.2018	BUTERUS	SED 6185260 001 00
CHKD. 16.07.2018	WILHELM	CHANGE NO.
STAND. 16.07.2018	PRODASTSCHUK	1086956
		SCALE
		-

DIMENSION
IN mm
EXCEPT AS
NOTED



ON-LOAD TAP-CHANGER VACUTAP® VMS®
 SELECTOR SIZE B
 SURVEY OF MODELS

SERIAL NUMBER

MATERIAL NUMBER	SHEET
101170260E	1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2016
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

DATE	NAME	DOCUMENT NO.
22.01.2016	RAEDLINGER	SED 24:16819 001 01
25.02.2016	TKBIRKMANN	CHANGE NO.
25.02.2016	PRODASTSCHUK	1072100
SCALE		-

DIMENSION
IN mm
EXCEPT AS
NOTED



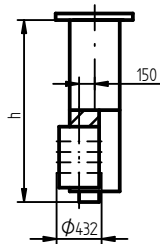
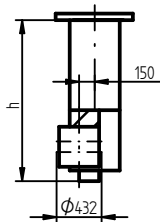
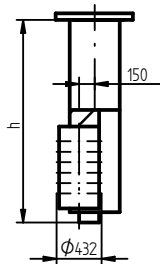
ON-LOAD TAP-CHANGER VACUTAP® VM 300
SELECTOR SIZE B
SURVEY OF MODELS

SERIAL NUMBER

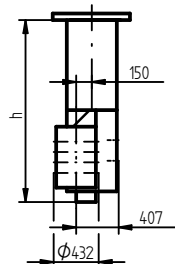
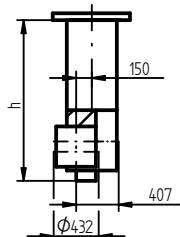
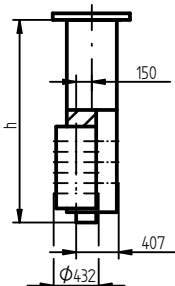
MATERIAL NUMBER
7658351E

SHEET
1/1

without
change-over selector



with
change-over selector



Installation length h in mm

VM III 300 Y

U _m [kV]	Selector size B
72,5	1942
123	2072
170	2202
245	2302

VM I 301

U _m [kV]	Selector size B
72,5	1542
123	1672
170	1802
245	1902

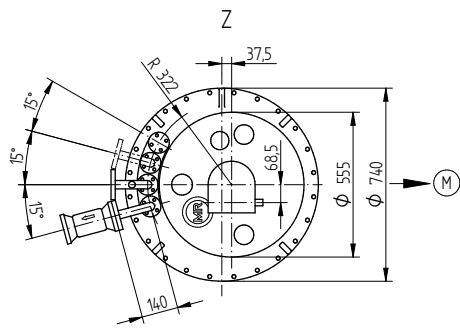
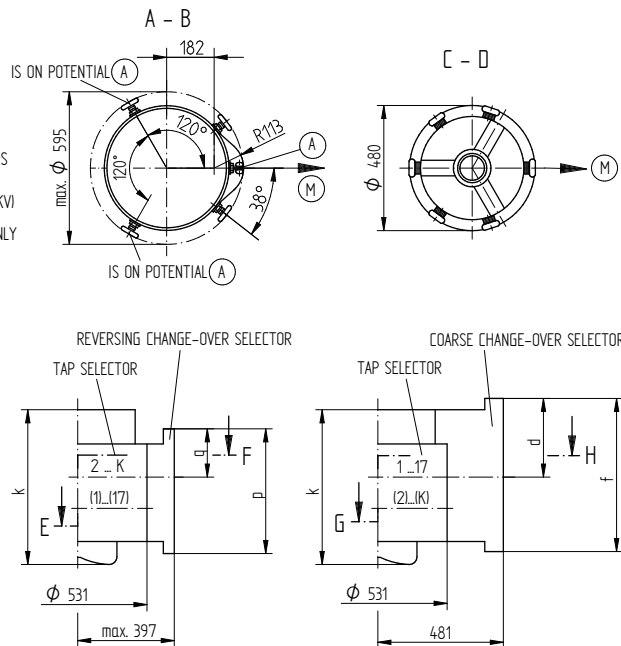
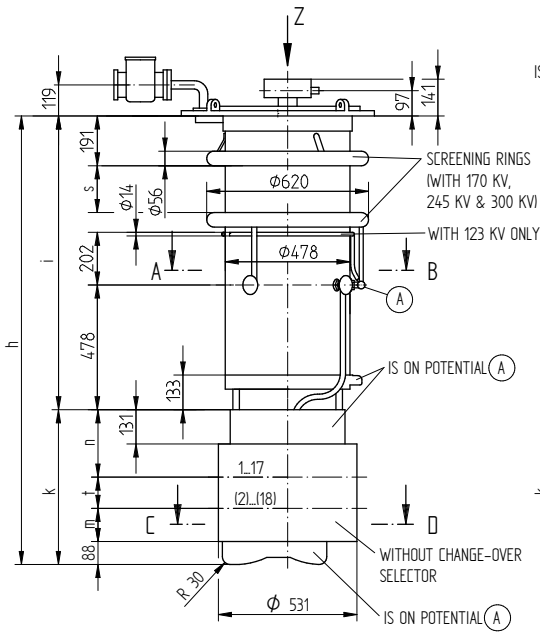
VM II 302

U _m [kV]	Selector size B
72,5	1742
123	1872
170	2002
245	2102

4.2 安装外形尺寸图

© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

DATE	NAME	DOCUMENT NO.
DFTR. 18.12.2015	RAEDLINGER	SED 2312716 001 01
CHKD. 01.12.2015	TKBIRKMAN	SCALE
STAND. 01.12.2015	PRODASTSCHUK	1:10
		CHANGE NO. 1069171



E - F
REFER TO 723590

G - H
REFER TO 723590

FOR INHERENT DRAWINGS REFER TO 898012

- (A) ON-LOAD TAP-CHANGER TAKE-OFF LEAD
- (M) DRIVE SIDE OF SELECTOR

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

SELECTOR SIZE	B					C					D / DE					
	U _M [KV]	72,5	123	170	245	300	72,5	123	170	245	300	72,5	123	170	245	300
DIMENSIONS [MM]	h	1514	1644	1774	1874	2026	1589	1719	1849	1949	2101	1784	1914	2044	2144	2296
	i	996	1126	1256	1356	1508	996	1126	1256	1356	1508	996	1126	1256	1356	1508
	s	-	-	267	367	520	-	-	267	367	520	-	-	267	367	520
	k	518					593					788				
	n	233					258					323				
	m	102					127					192				
	t	95					120					185				
	q	160					185					250				
	p	403					478					673				
	d	276.5					3015					366.5				
f	512					587					782					
OIL VOLUME [DM ³]	130	150	170	190	210	130	150	170	190	210	130	150	170	190	210	
DISPLACEMENT [DM ³]	193	218	238	258	278	193	218	238	258	278	195	220	240	260	280	
WEIGHT [KG]	280	285	290	295	300	290	295	300	305	310	300	305	310	315	320	

DIMENSION IN mm EXCEPT AS NOTED

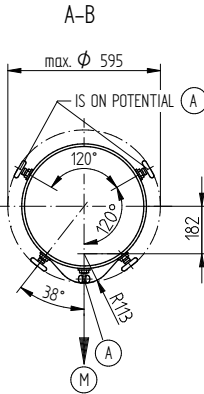
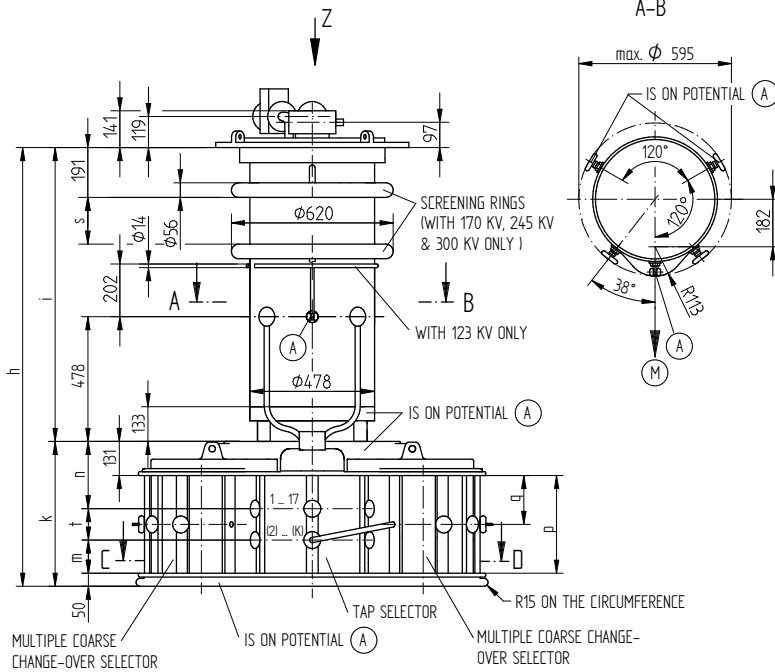


ON-LOAD TAP-CHANGER VACUTAP® VM
VM I 351/501/651 - B/C/D/DE - 0/W/G
DIMENSION DRAWING

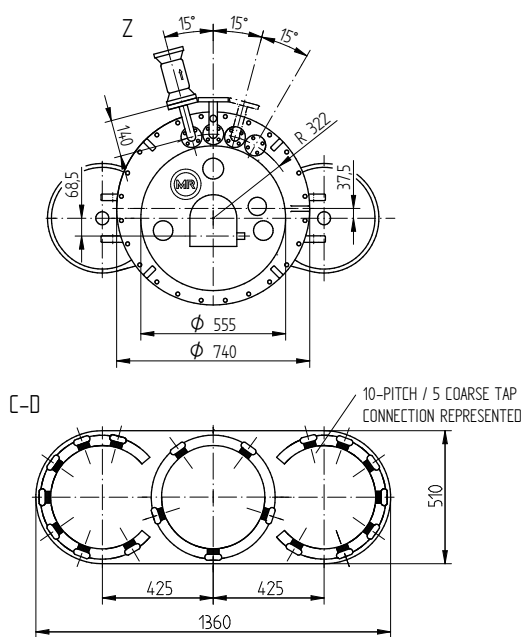
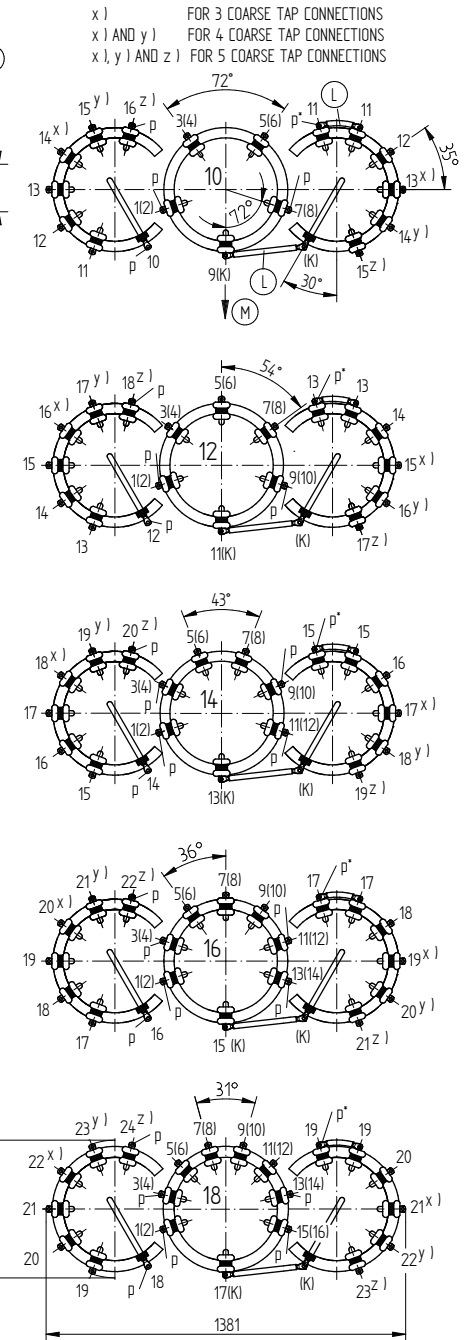
SERIAL NUMBER

MATERIAL NUMBER 7462211E SHEET 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



ARRANGEMENT OF SELECTOR CONTACTS, 2-5 COARSE TAP CONNECTIONS (PLAN VIEW)



DOCUMENT NO.	SED 23/15/40 001 02
NAME	RAEDLINGER
DATE	18.12.2015
CHANGE NO.	TKBRKMANN
DFTR.	01.12.2015
SCALE	1:10
CHKD.	1069171
STAND.	PRODATSCHUK

p = CONNECTION MIN. 3 MM PAPER INSULATED
 p* = CONNECTION ALREADY 3 MM PAPER INSULATED BY MR

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

- (A) ON-LOAD TAP-CHANGER TAKE-OFF LEAD
- (L) CONNECTING LEAD
- (M) DRIVE SIDE OF SELECTOR

SELECTOR SIZE	B					C					D					
U _M [KV]	72,5	123	170	245	300	72,5	123	170	245	300	72,5	123	170	245	300	
DIMENSIONS [MM]	h	1476	1606	1736	1836	1988	1551	1681	1811	1911	2063	1746	1876	2006	2106	2258
	i	996	1126	1256	1356	1508	996	1126	1256	1356	1508	996	1126	1256	1356	1508
	s	-	-	267	367	520	-	-	267	367	520	-	-	267	367	520
	k	-	-	480	-	-	-	-	555	-	-	-	-	750	-	-
	n	-	-	233	-	-	-	-	258	-	-	-	-	323	-	-
	m	-	-	102	-	-	-	-	127	-	-	-	-	192	-	-
	t	-	-	95	-	-	-	-	120	-	-	-	-	185	-	-
	q	-	-	149,5	-	-	-	-	187	-	-	-	-	284,5	-	-
	r	-	-	299	-	-	-	-	374	-	-	-	-	569	-	-
	p	-	-	299	-	-	-	-	374	-	-	-	-	569	-	-
OIL VOLUME [DM³]	130	150	170	190	210	130	150	170	190	210	130	150	170	190	210	
DISPLACEMENT [DM³]	198	223	243	263	283	198	223	243	263	283	203	223	243	268	288	
WEIGHT [KG]	370	375	380	385	390	380	385	390	395	400	390	395	400	405	410	

DIMENSION IN mm EXCEPT AS NOTED

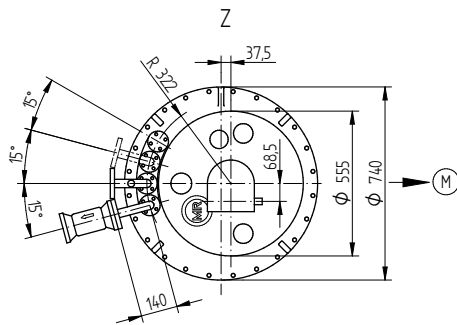
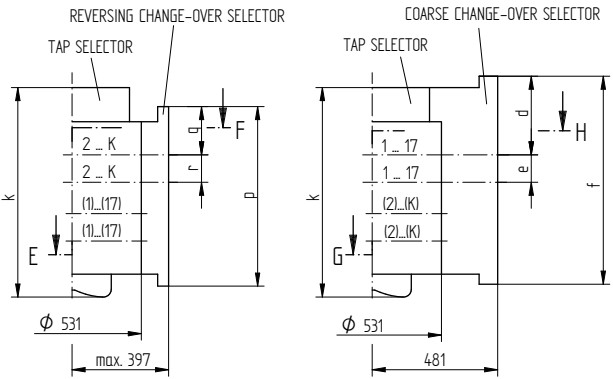
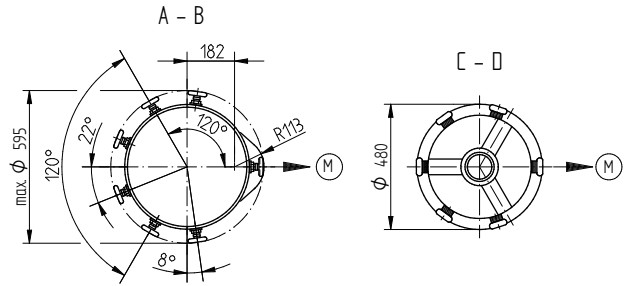
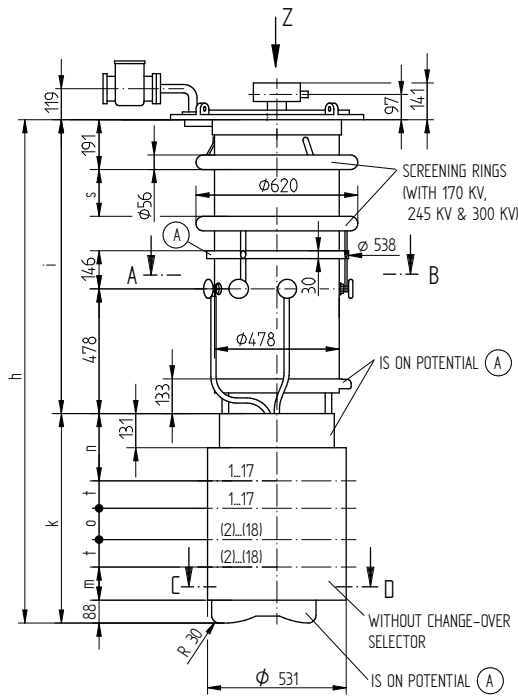


ON-LOAD TAP-CHANGER VACUTAP® VM
 VM I 651 - B/C/D WITH MULTIPLE COARSE CHANGE-OVER SELECTOR
 DIMENSION DRAWING

SERIAL NUMBER

MATERIAL NUMBER: 7462271E
 SHEET: 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



E - F
REFER TO 723590

G - H
REFER TO 723590

FOR INHERENT DRAWINGS REFER TO 898012

- (A) ON-LOAD TAP-CHANGER TAKE-OFF TERMINAL
- (M) DRIVE SIDE OF SELECTOR

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

SELECTOR SIZE	B					C					D / DE				
U_m [KV]	72,5	123	170	245	300	72,5	123	170	245	300	72,5	123	170	245	300
h	1724	1854	1984	2084	2236	1799	1929	2059	2159	2311	1994	2124	2254	2354	2506
i	996	1126	1256	1356	1508	996	1126	1256	1356	1508	996	1126	1256	1356	1508
s	-		267	367	520	-		267	367	520	-		267	367	520
k						803					998				
n						258					323				
o	95					120					185				
m	102					127					192				
t	105					105					105				
r	105					105					105				
q	160					185					250				
p	613					688					883				
e	105					105					105				
d	276,5					301,5					366,5				
f	722					797					992				
OIL VOLUME [DM ³]	130	150	170	190	210	130	150	170	190	210	130	150	170	190	210
DISPLACEMENT [DM ³]	196	221	241	261	281	196	221	241	261	281	199	224	244	264	284
WEIGHT [KG]	310	315	320	325	330	320	325	330	335	340	330	335	340	345	350

DATE	NAME	DOCUMENT NO.
18.12.2015	RAEDLINGER	SED 2312691 001 02
01.12.2015	TKBIRKMAN	CHANGE NO.
01.12.2015	PRODASTSCHUK	1069171
SCALE	1:10	

DIMENSION IN mm EXCEPT AS NOTED



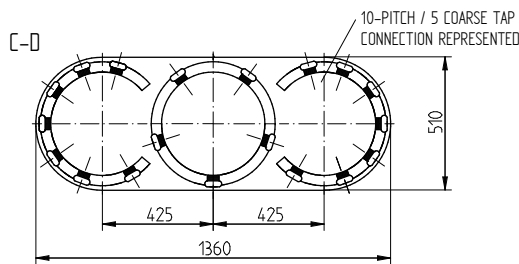
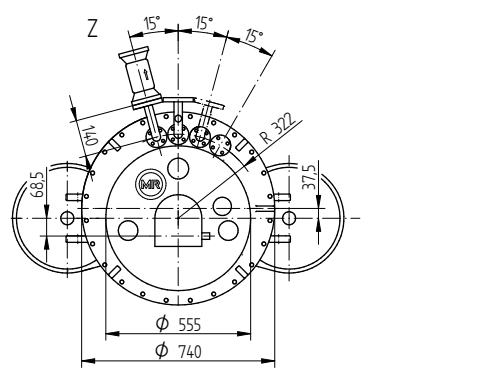
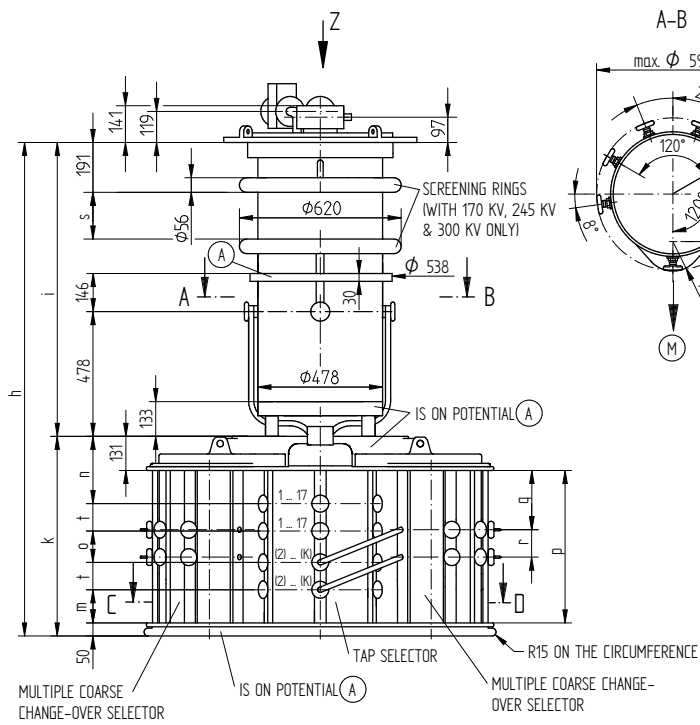
ON-LOAD TAP-CHANGER VACUTAP® VM
 VM I 802/1002 - B/C/D/DE - O/W/G
 DIMENSION DRAWING

SERIAL NUMBER

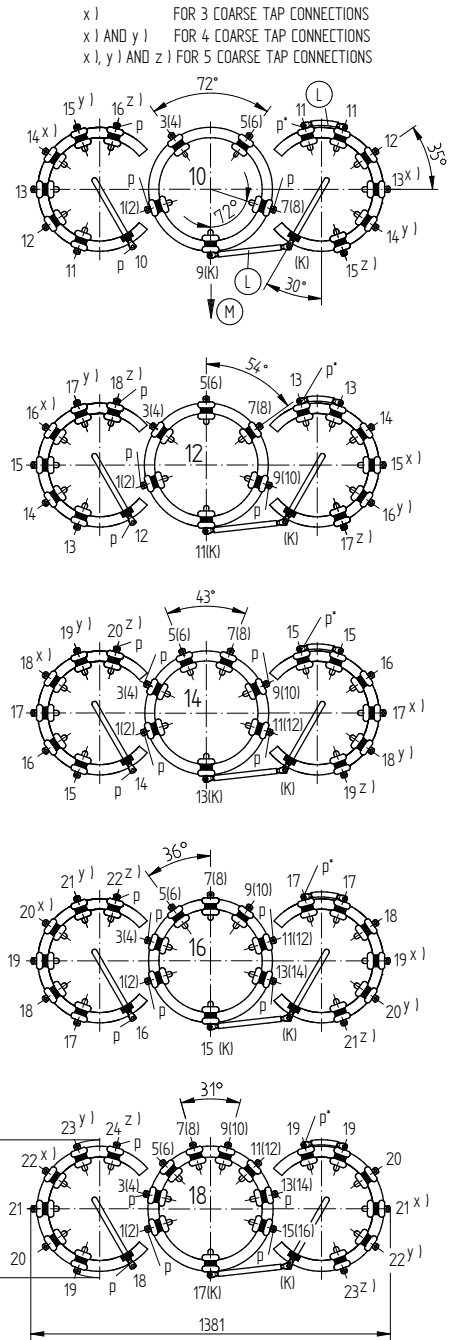
MATERIAL NUMBER
7462222E

SHEET
1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



ARRANGEMENT OF SELECTOR CONTACTS, 2-5 COARSE TAP CONNECTIONS (PLAN VIEW)



DOCUMENT NO.	SED 23/15/141 001 02	
NAME	RAEDLINGER	SCALE
DATE	18.11.2015	1:10
CHKD.	TKBIRKMAN	CHANGE NO.
STAND.	01:12:2015	1069171

p = CONNECTION MIN. 3 MM PAPER INSULATED
 p' = CONNECTION ALREADY 3 MM PAPER INSULATED BY MR

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

- (A) ON-LOAD TAP-CHANGER TAKE-OFF TERMINAL
- (L) CONNECTING LEAD
- (M) DRIVE SIDE OF SELECTOR

SELECTOR SIZE	B					C					D					
U_M [KV]	72,5	123	170	245	300	72,5	123	170	245	300	72,5	123	170	245	300	
DIMENSIONS [MM]	h	1686	1816	1946	2046	2198	1761	1891	2021	2121	2273	1956	2086	2216	2316	2468
	i	996	1126	1256	1356	1508	996	1126	1256	1356	1508	996	1126	1256	1356	1508
	s	-	-	267	367	520	-	-	267	367	520	-	-	267	367	520
	k	-	-	690	-	-	-	-	765	-	-	-	-	960	-	-
	n	-	-	233	-	-	-	-	258	-	-	-	-	323	-	-
	o	-	-	95	-	-	-	-	120	-	-	-	-	185	-	-
	m	-	-	102	-	-	-	-	127	-	-	-	-	192	-	-
	t	-	-	105	-	-	-	-	105	-	-	-	-	105	-	-
	r	-	-	105	-	-	-	-	105	-	-	-	-	105	-	-
	q	-	-	189,5	-	-	-	-	227	-	-	-	-	324,5	-	-
	p	-	-	509	-	-	-	-	584	-	-	-	-	779	-	-
OIL VOLUME [DM ³]	130	150	170	190	210	130	150	170	190	210	130	150	170	190	210	
DISPLACEMENT [DM ³]	200	225	245	265	285	200	225	245	265	285	208	233	253	273	293	
WEIGHT [KG]	410	415	420	425	430	420	425	430	435	440	430	435	440	445	450	

DIMENSION IN mm EXCEPT AS NOTED



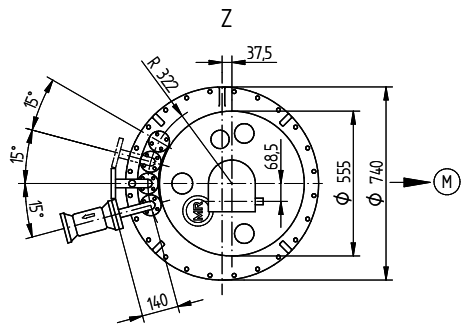
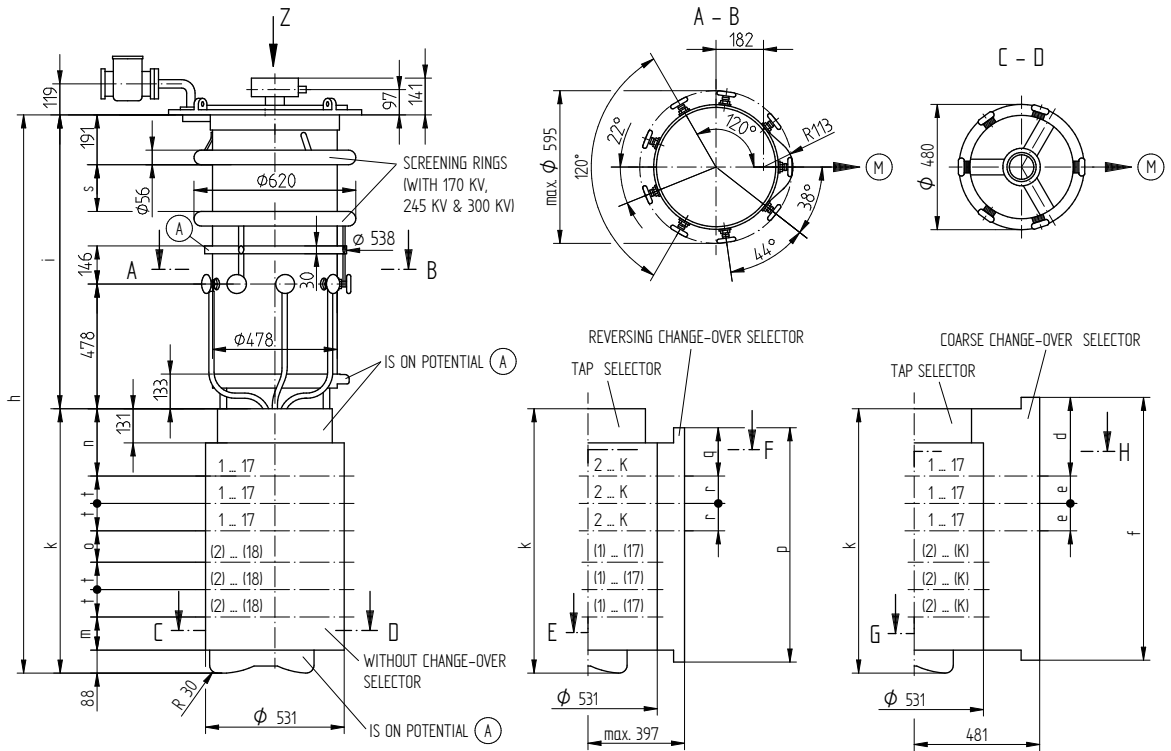
ON-LOAD TAP-CHANGER VACUTAP® VM
 VM I 802/1002 - B/C/D WITH MULTIPLE COARSE C.-O. SELECTOR
 DIMENSION DRAWING

SERIAL NUMBER

MATERIAL NUMBER
 7462282E

SHEET
 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



E - F
 REFER TO 723590

G - H
 REFER TO 723590

FOR INHERENT DRAWINGS REFER TO 898012

- (A) ON-LOAD TAP-CHANGER TAKE-OFF TERMINAL
- (M) DRIVE SIDE OF SELECTOR

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

SELECTOR SIZE	B					C					D/DE					
	72,5	123	170	245	300	72,5	123	170	245	300	72,5	123	170	245	300	
U _m [KV]	72,5	123	170	245	300	72,5	123	170	245	300	72,5	123	170	245	300	
DIMENSIONS [MM]	h	1934	2064	2194	2294	2446	2009	2139	2269	2369	2521	2204	2334	2464	2564	2716
	i	996	1126	1256	1356	1508	996	1126	1256	1356	1508	996	1126	1256	1356	1508
	s	-	267	367	367	520	-	267	367	367	520	-	267	367	367	520
	k			938					1013					1208		
	n		233						258					323		
	o		95						120					185		
	m		102						127					192		
	t		105						105					105		
	r		105						105					105		
	q		160						185					250		
	p		823						898					1093		
	e		105						105					105		
	d		276.5						301.5					366.5		
f		932						1007					1202			
OIL VOLUME [DM ³]	130	150	170	190	210	130	150	170	190	210	130	150	170	190	210	
DISPLACEMENT [DM ³]	200	225	245	265	285	200	225	245	265	285	204	229	249	269	289	
WEIGHT [KG]	350	355	360	365	370	360	365	370	375	380	375	380	385	390	395	

DATE	NAME	DOCUMENT NO.
18.11.2015	RAEDLINGER	SED 2313229 001 01
01.12.2015	TKBIRKMAN	CHANGE NO.
01.12.2015	PRODASTSCHUK	1069171
SCALE		1:10

DIMENSION IN mm EXCEPT AS NOTED



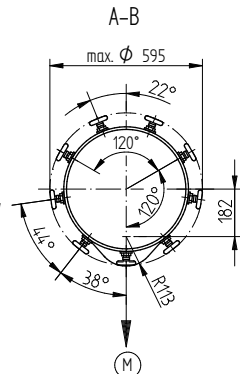
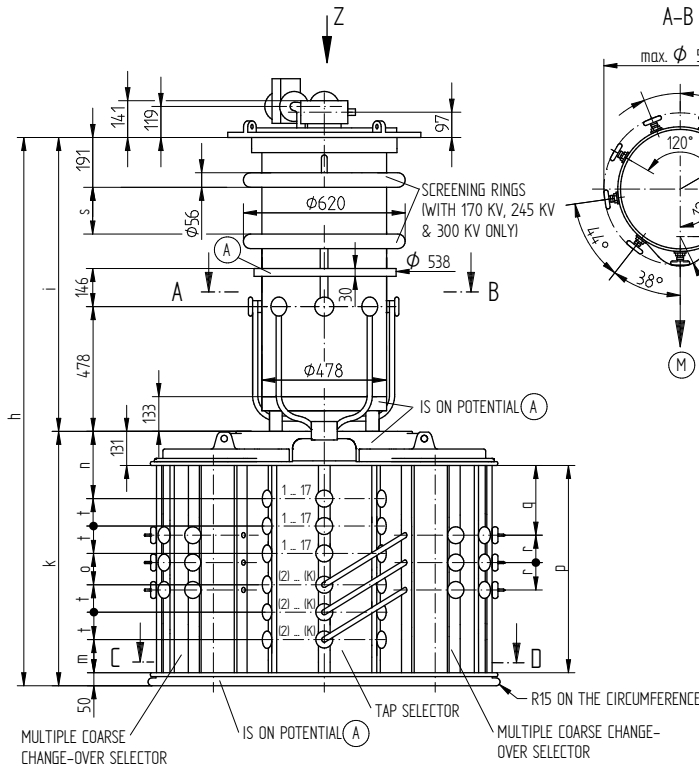
ON-LOAD TAP-CHANGER VACUTAP® VM
 VM I 1203/1503 - B/C/D/DE - O/W/G
 DIMENSION DRAWING

SERIAL NUMBER

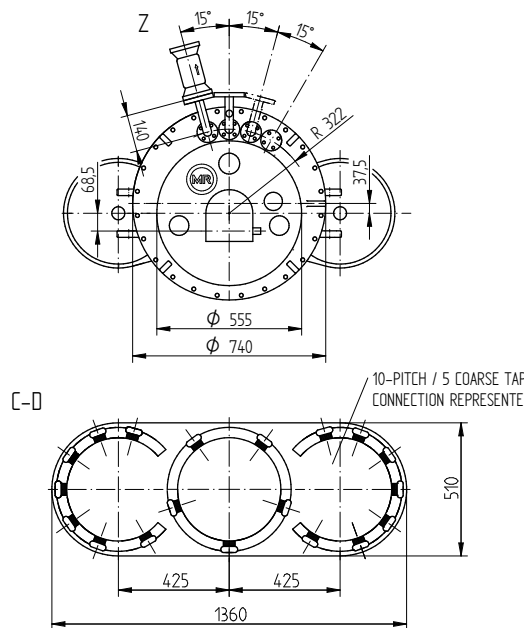
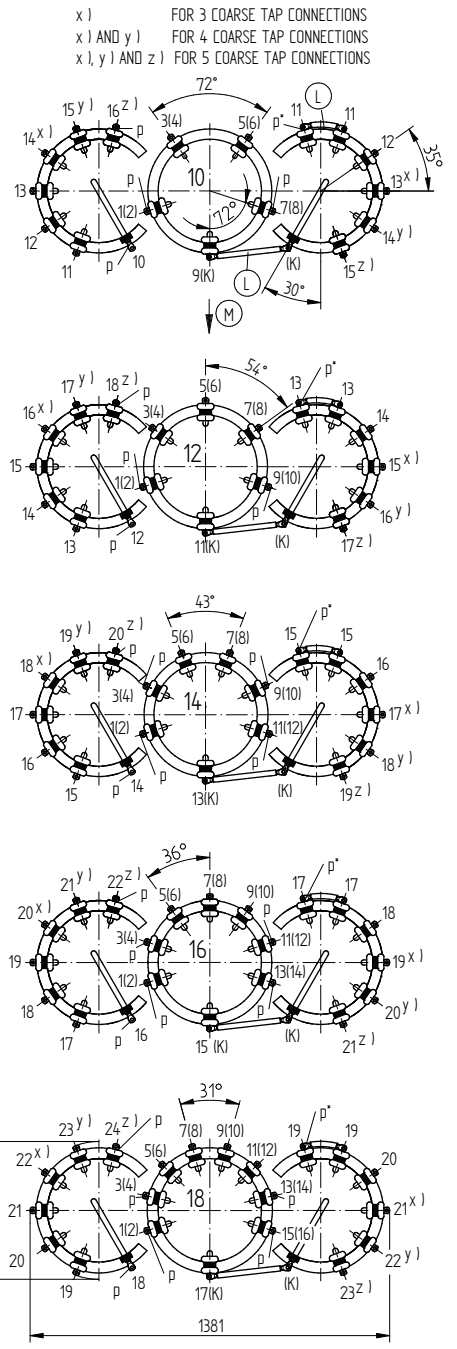
MATERIAL NUMBER
 7462231E

SHEET
 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



ARRANGEMENT OF SELECTOR CONTACTS, 2-5 COARSE TAP CONNECTIONS (PLAN VIEW)



DOCUMENT NO.	SED 2315890 001 02
NAME	RAEDLINGER
DATE	18.12.2015
CHANGE NO.	TKBIRKMANN
SCALE	1:10
CHD.	01.12.2015
STAND.	01.12.2015
	PRODASTSCHUK

p = CONNECTION MIN. 3 MM PAPER INSULATED
 p' = CONNECTION ALREADY 3 MM PAPER INSULATED BY MR

 FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

- (A) ON-LOAD TAP-CHANGER TAKE-OFF TERMINAL
- (L) CONNECTING LEAD
- (M) DRIVE SIDE OF SELECTOR

SELECTOR SIZE	B					C					D				
U_M [KV]	72,5	123	170	245	300	72,5	123	170	245	300	72,5	123	170	245	300
h	1896	2026	2156	2256	2408	1971	2101	2231	2331	2483	2166	2296	2426	2526	2678
i	996	1126	1256	1356	1508	996	1126	1256	1356	1508	996	1126	1256	1356	1508
s	-	267	367	520	-	267	367	520	-	267	367	520	-	267	520
k			900					975					1170		
n			233					258					323		
o			95					120					185		
m			102					127					192		
t			105					105					105		
r			105					105					105		
q			229,5					267					364,5		
p			719					794					989		
OIL VOLUME [DM ³]	130	150	170	190	210	130	150	170	190	210	130	150	170	190	210
DISPLACEMENT [DM ³]	320	345	365	385	405	320	345	365	385	405	331	351	373	393	413
WEIGHT [KG]	460	465	470	475	480	470	475	480	485	490	485	490	495	500	505

DIMENSION IN mm EXCEPT AS NOTED

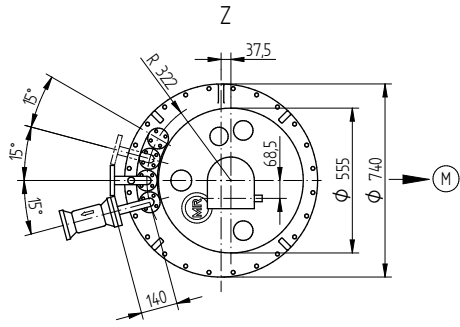
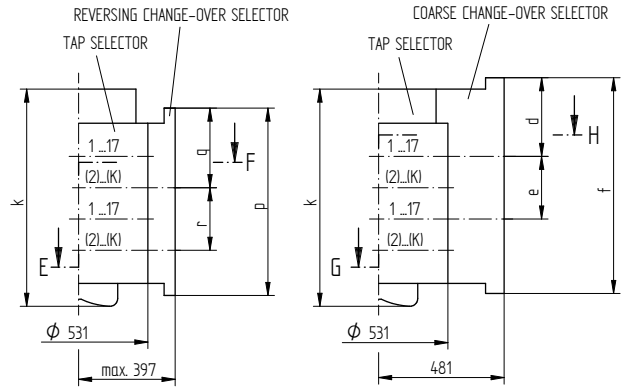
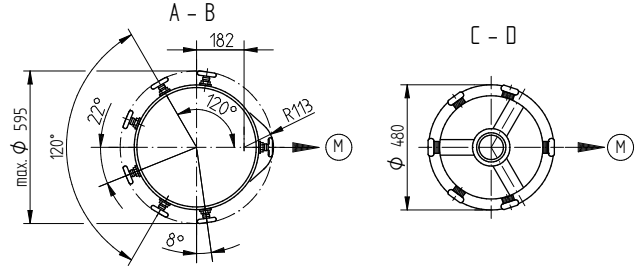
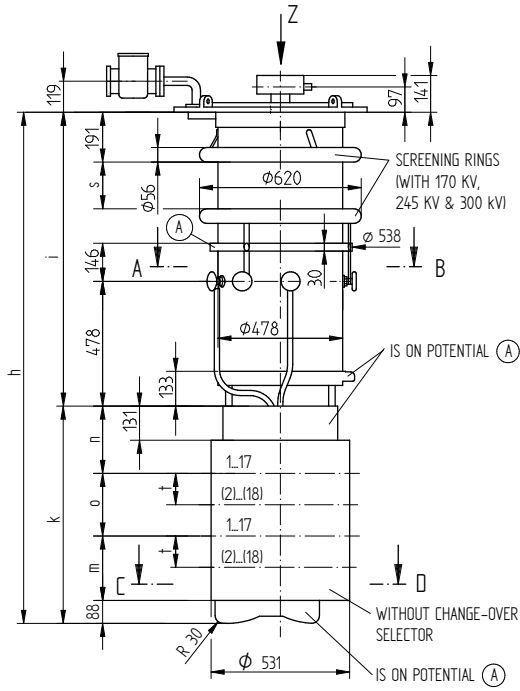


ON-LOAD TAP-CHANGER VACUTAP® VM
 VM I 1203/1503 - B/C/D WITH MULTIPLE COARSE C.-O. SELECTOR
 DIMENSION DRAWING

SERIAL NUMBER	
MATERIAL NUMBER	SHEET
7462291E	1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

DATE	NAME	DOCUMENT NO.
DFTR. 18.11.2015	RAEDLINGER	SED 2310512 001 01
CHKD. 01.12.2015	TKBIRKMAN	CHANGE NO.
STAND. 01.12.2015	PRODASTSCHUK	1069171
		SCALE
		1:10



E - F
REFER TO 723590

G - H
REFER TO 723590

FOR INHERENT DRAWINGS REFER TO 898012

- (A) ON-LOAD TAP-CHANGER TAKE-OFF TERMINAL (NEUTRAL)
- (M) DRIVE SIDE OF SELECTOR

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

SELECTOR SIZE	B					C					D / DE				
U _m [kV]	72,5	123	170	245	300	72,5	123	170	245	300	72,5	123	170	245	300
h	1704	1834	1964	2064	2216	1829	1959	2089	2189	2341	2154	2284	2414	2514	2666
i	996	1126	1256	1356	1508	996	1126	1256	1356	1508	996	1126	1256	1356	1508
s	-		267	367	520	-		267	367	520	-		267	367	520
k											833				
n											258				
o											240				
m											247				
t											120				
r											240				
q											305				
p											718				
e											240				
d											276.5				
f											702				
OIL VOLUME [DM ³]	130	150	170	190	210	130	150	170	190	210	130	150	170	190	210
DISPLACEMENT [DM ³]	196	221	241	261	281	196	221	241	261	281	199	224	244	264	284
MAX. WEIGHT [KG]	310	315	320	325	330	320	325	330	335	340	330	335	340	345	350

DIMENSION IN mm EXCEPT AS NOTED



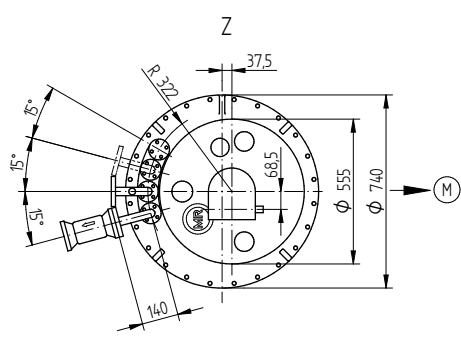
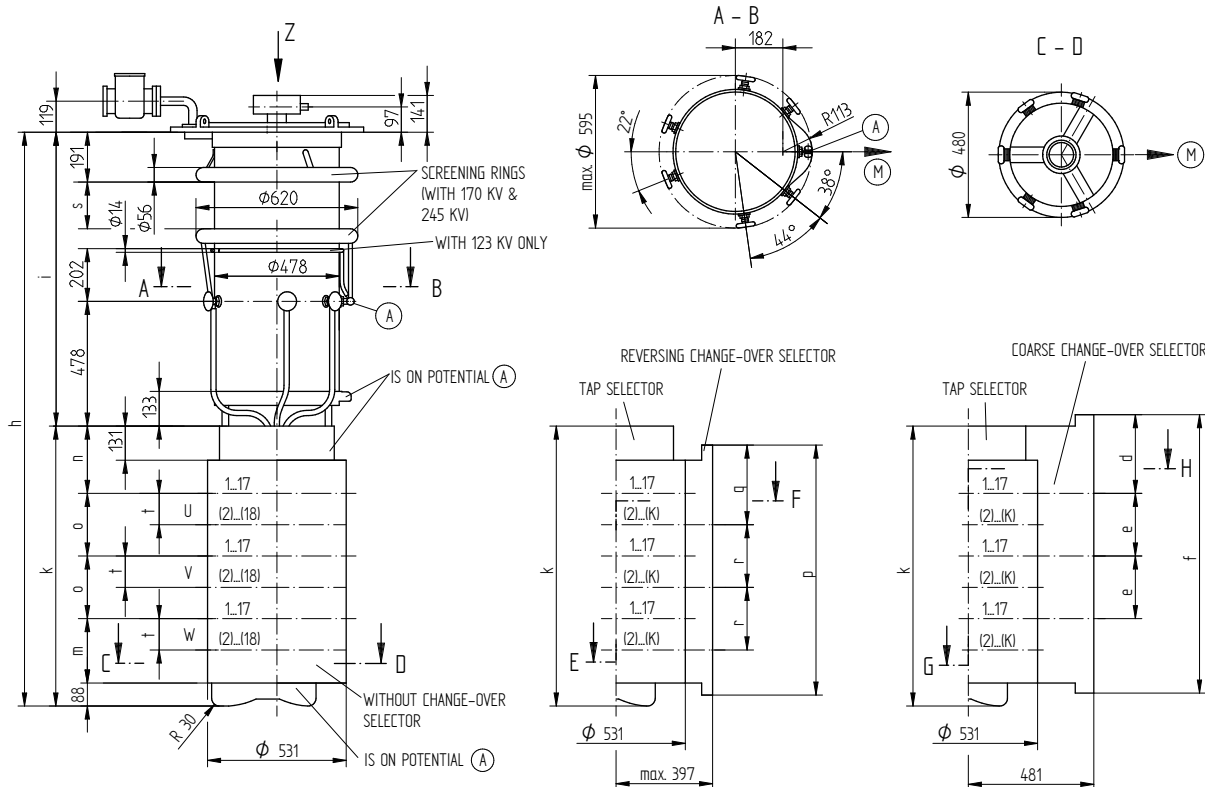
ON-LOAD TAP-CHANGER VACUTAP® VM
 VM II 352/502/652 - B/C/D/DE - O/W/G
 DIMENSION DRAWING

SERIAL NUMBER

MATERIAL NUMBER
7462201E

SHEET
1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF A PATENT, UTILITY MODEL OR DESIGN.



FOR INHERENT DRAWINGS REFER TO 898012

- (A) ON-LOAD TAP-CHANGER TAKE-OFF LEAD (NEUTRAL)
- (M) DRIVE SIDE OF SELECTOR

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

E - F
REFER TO 723590

G - H
REFER TO 723590

SELECTOR SIZE	B				C *)				D / DE			
U _m [kV]	72,5	123	170	245	72,5 ¹⁾	123 ¹⁾	170 ¹⁾	245	72,5	123	170	245
h	1894	2024	2154	2254	2069	2199	2329	2429	2524	2654	2784	2884
i	996	1126	1256	1356	996	1126	1256	1356	996	1126	1256	1356
s	-	-	267	367	-	-	267	367	-	-	267	367
k	898				1073				1528			
n	233				258				323			
o	190				240				370			
m	197				247				377			
t	95				120				185			
r	190				240				370			
q	255				305				435			
p	783				958				1413			
d	276,5				301,5				366,5			
e	190				240				370			
f	892				1067				1522			
OIL VOLUME [DM ³]	130	150	170	190	130	150	170	190	130	150	170	190
DISPLACEMENT [DM ³]	199	224	244	264	199	224	244	264	207	232	252	272
MAX. WEIGHT [KG]	350	355	360	365	360	365	370	375	375	380	385	390

*) VMS® AVAILABLE ONLY IN THESE VERSIONS

DATE	12.07.2018	NAME	BUTERUS	DOCUMENT NO.	SED 2310153 001 02
DFTR.	16.07.2018	CHKD.	WILHELM	CHANGE NO.	1086956
STAND.	16.07.2018	PRODASTSCHUK		SCALE	1:10

DIMENSION IN mm EXCEPT AS NOTED



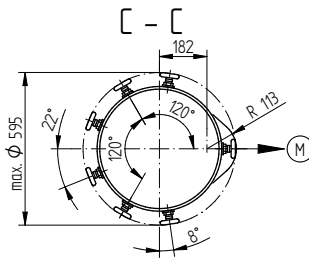
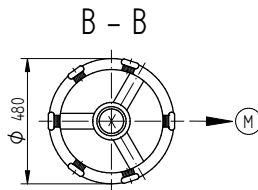
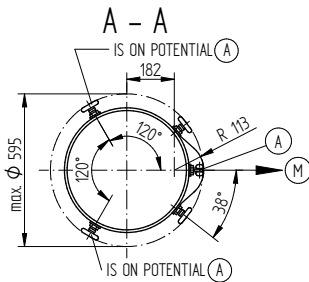
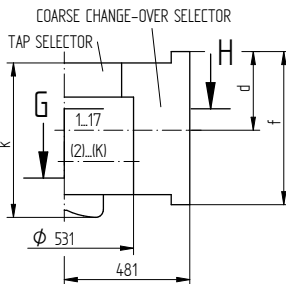
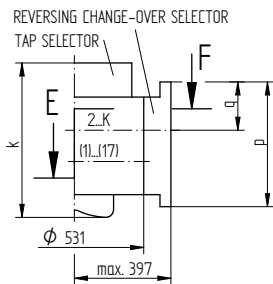
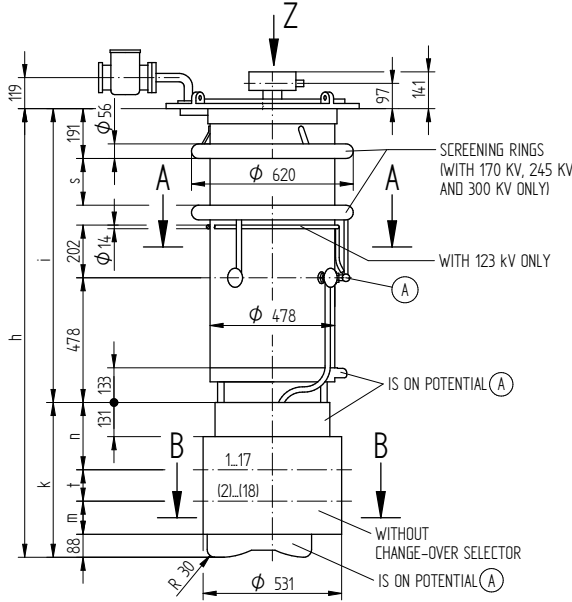
ON-LOAD TAP-CHANGER VACUTAP® VM®, VMS® - DIMENSION DRAWING
 VM III 350/500/650 Y - B/C/D/DE - O/W/G
 VMS III 400/650 Y - C - O/W/G

SERIAL NUMBER	
MATERIAL NUMBER	SHEET
7462192E	1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

VM I 351 / 501 / 651 - 0 / W / G

SELECTOR SIZE		B				C				D/DE							
Um IN KV		72.5	123	170	245	300	72.5	123	170	245	300	72.5	123	170	245	300	
DIMENSIONS IN MM	h	1514	1644	1774	1874	2026	1589	1719	1849	1949	2101	1784	1914	2044	2144	2296	
	i	996	1126	1256	1356	1508	996	1126	1256	1356	1508	996	1126	1256	1356	1508	
	s	-	267	367	520	-	267	367	520	-	267	367	520	-	267	367	520
	k	518					593					788					
	n	233					258					323					
	m	102					127					192					
	t	95					120					185					
	q	160					185					250					
	p	403					478					673					
	d	2765					3015					3665					
f	512					587					782						
OIL VOLUME	DM³	130	150	170	190	210	130	150	170	190	210	130	150	170	190	210	
DISPLACEMENT	DM³	193	218	238	258	278	193	218	238	258	278	195	220	240	260	280	
WEIGHT	KG	280	285	290	295	300	290	295	300	305	310	300	305	310	315	320	



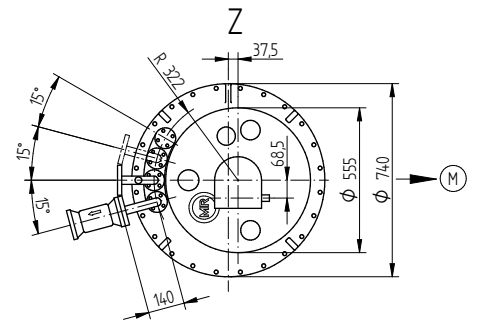
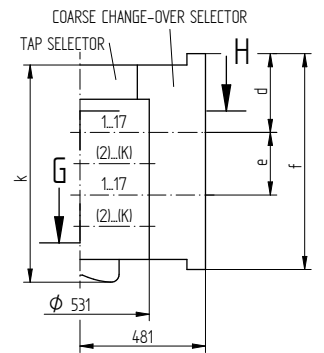
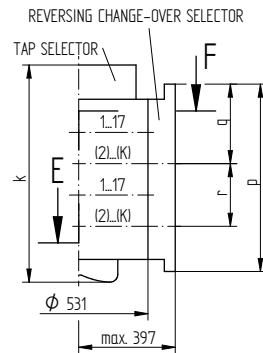
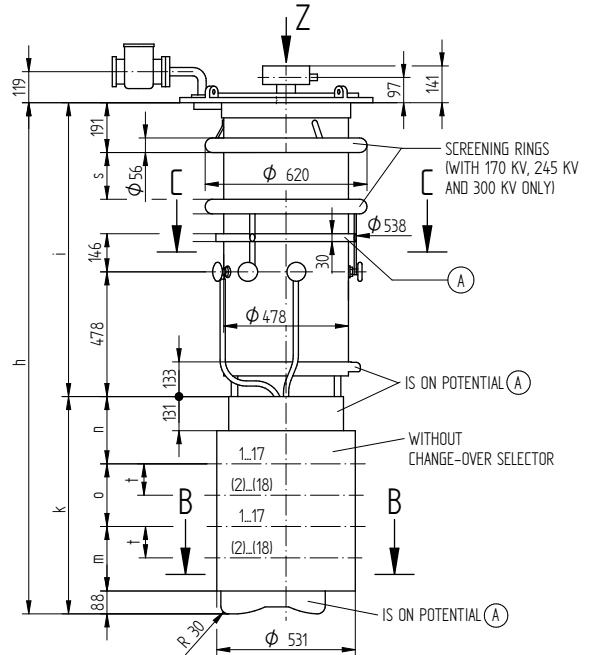
FOR INHERENT DRAWINGS REFER TO 898012

- (A) ON-LOAD TAP-CHANGER TAKE-OFF LEAD
- (M) DRIVE SIDE OF SELECTOR

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

VM II 352 / 502 / 652 - 0 / W / G

SELECTOR SIZE		B				C				D/DE							
Um IN KV		72.5	123	170	245	300	72.5	123	170	245	300	72.5	123	170	245	300	
DIMENSIONS IN MM	h	1704	1834	1964	2064	2216	1829	1959	2089	2189	2341	2154	2284	2414	2514	2666	
	i	996	1126	1256	1356	1508	996	1126	1256	1356	1508	996	1126	1256	1356	1508	
	s	-	267	367	520	-	267	367	520	-	267	367	520	-	267	367	520
	k	708					833					1158					
	n	233					258					323					
	o	190					240					370					
	m	197					247					377					
	t	95					120					185					
	r	190					240					370					
	q	255					305					435					
p	593					718					1043						
e	190					240					370						
d	2765					3015					3665						
f	702					827					1152						
OIL VOLUME	DM³	130	150	170	190	210	130	150	170	190	210	130	150	170	190	210	
DISPLACEMENT	DM³	196	221	241	261	281	196	221	241	261	281	199	224	244	264	284	
WEIGHT	KG	310	315	320	325	330	320	325	330	335	340	330	335	340	345	350	



E - F / G - H

REFER TO 723590

DOCUMENT NO.	SED 2315008 001 02
NAME	RAEDLINGER
DATE	18.11.2015
CHANGE NO.	TKBIRKMAN
SCALE	1:10
PRODASTSCHUK	1069171
DATE	01.12.2015
STAND	01.12.2015

DIMENSION IN mm EXCEPT AS NOTED



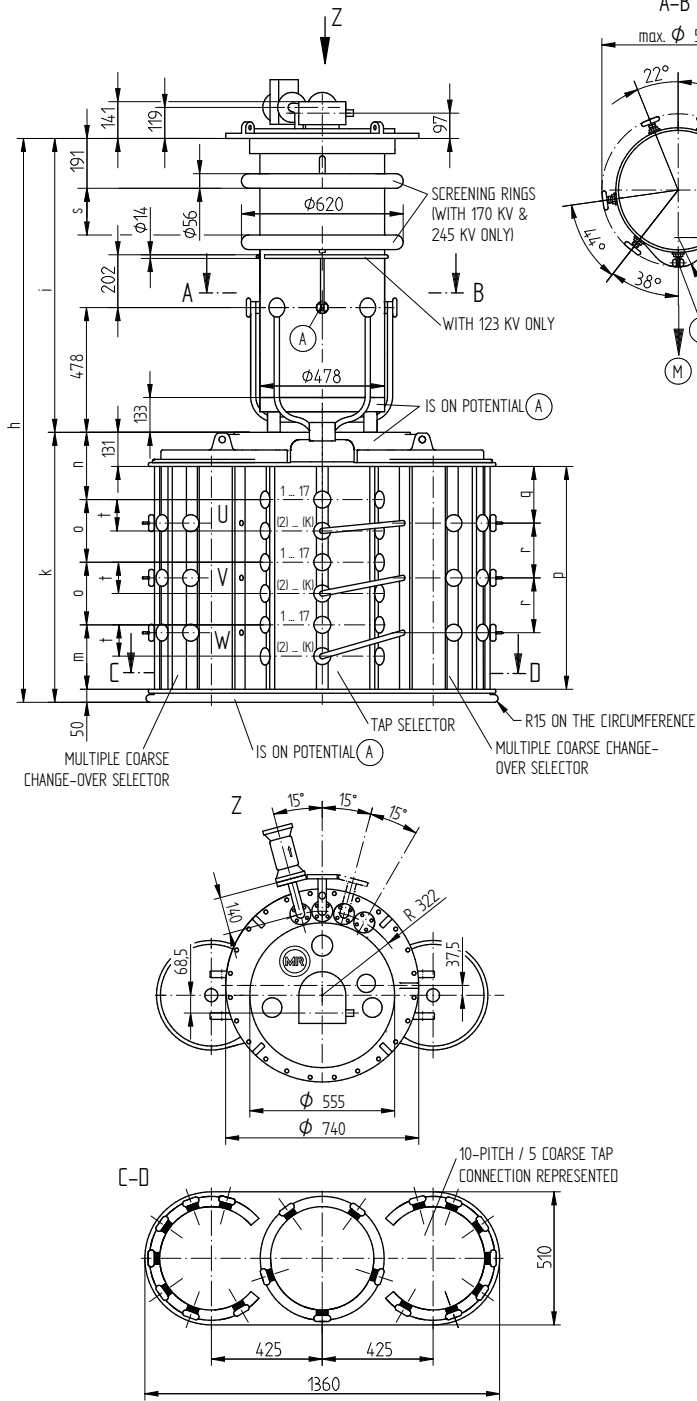
ON-LOAD TAP-CHANGER VACUTAP® VM
VM III 350/500/650 K-B/C/D/DE-0/W/G
DIMENSION DRAWING

SERIAL NUMBER

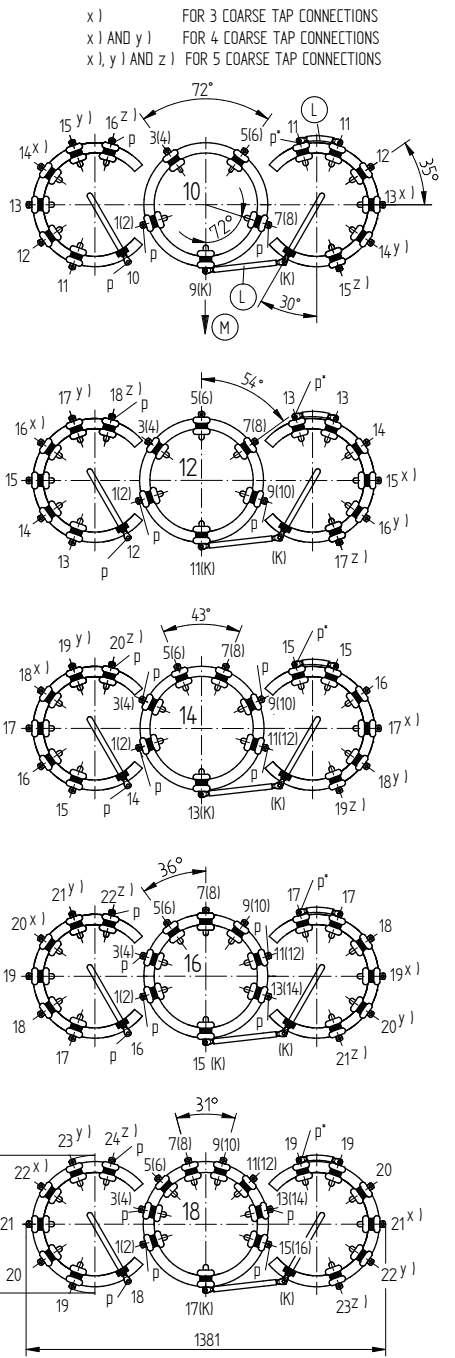
MATERIAL NUMBER
746224-2E

SHEET
1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



ARRANGEMENT OF SELECTOR CONTACTS, 2-5 COARSE TAP CONNECTIONS (PLAN VIEW)



DOCUMENT NO.	SED 2315094_001 02	
NAME	RAEDLINGER	TKBIRKMANN
DATE	18.12.2015	01.12.2015
DFTR.	01.12.2015	01.12.2015
CHKD.	1069171	
STAND.		
SCALE	1:10	
CHANGE NO.	1069171	
PRODASTSCHUK		

p = CONNECTION MIN. 3 MM PAPER INSULATED
 p' = CONNECTION ALREADY 3 MM PAPER INSULATED BY MR

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

- (A) ON-LOAD TAP-CHANGER TAKE-OFF LEAD
- (L) CONNECTING LEAD
- (M) DRIVE SIDE OF SELECTOR

SELECTOR SIZE	B				C				D				
U _M [KV]	72,5	123	170	245	72,5	123	170	245	72,5	123	170	245	
DIMENSIONS [MM]	h	1856	1986	2116	2216	2031	2161	2291	2391	2486	2616	2746	2846
	i	996	1126	1256	1356	996	1126	1256	1356	996	1126	1256	1356
	s	-		267	367	-		267	367	-		267	367
	k	860				1035				1490			
	n	233				258				323			
	o	190				240				370			
	m	197				247				377			
	t	95				120				185			
	r	166,5				210				327			
	q	173				217				327,5			
p	679				854				1309				
OIL VOLUME [DM ³]	130	150	170	190	130	150	170	190	130	150	170	190	
DISPLACEMENT [DM ³]	321	346	366	386	321	346	366	386	333	353	375	395	
WEIGHT [KG]	460	465	470	475	470	475	480	485	485	490	495	500	

DIMENSION IN mm EXCEPT AS NOTED

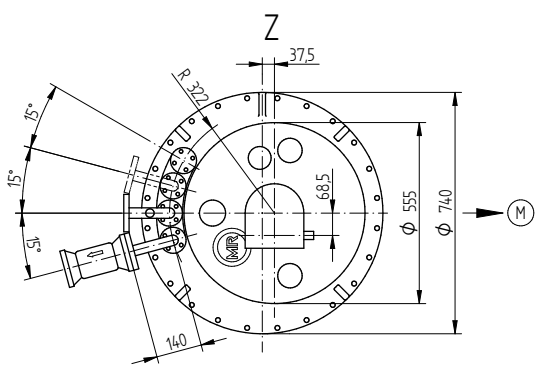
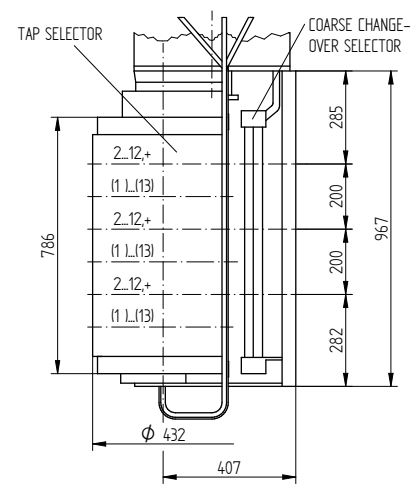
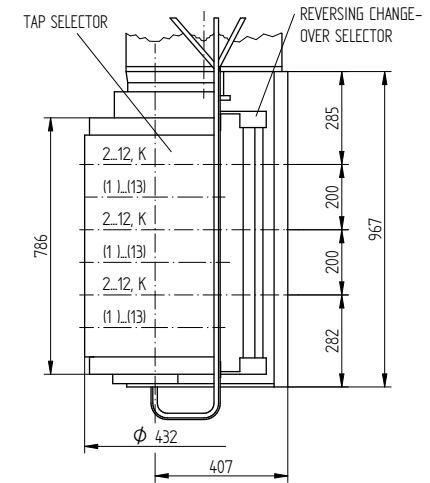
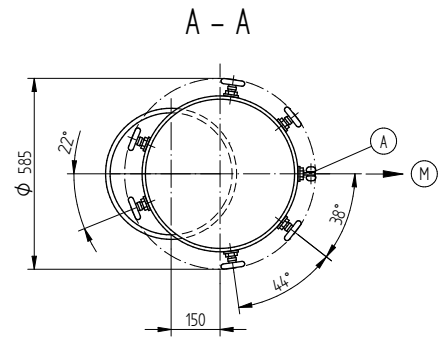
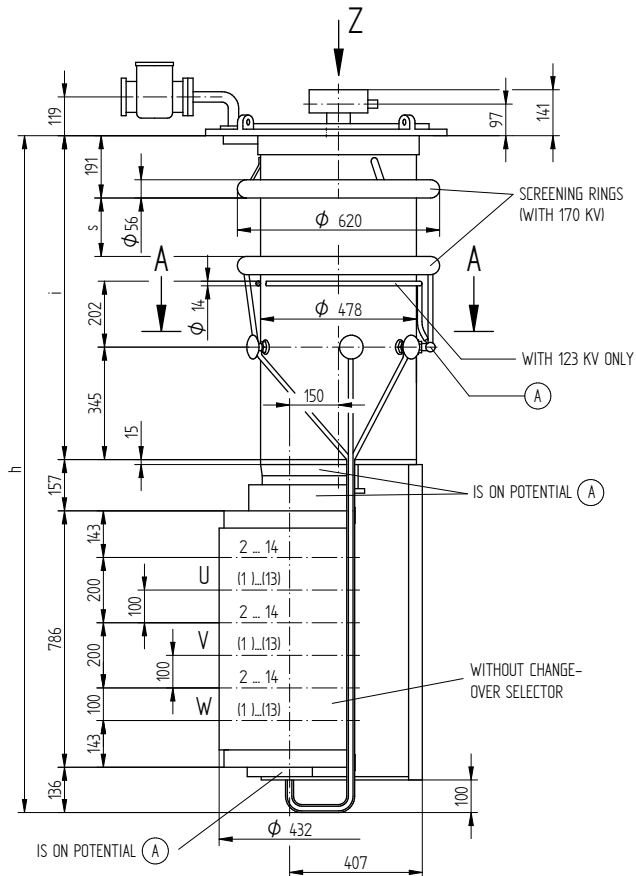


ON-LOAD TAP-CHANGER VACUTAP® VM
 VM III 650 Y - B/C/D WITH MULTIPLE COARSE C.-O. SELECTOR
 DIMENSION DRAWING

SERIAL NUMBER

MATERIAL NUMBER 7462261E SHEET 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



DATE	NAME	DOCUMENT NO.
11.07.2018	BUTERUS	SED 6011085 001 00
16.07.2018	WILHELM	CHANGE NO.
16.07.2018	PRODASTSCHUK	1086956
DFTR.	SCALE	18
CHKD.		
STAND.		

FOR INHERENT DRAWINGS REFER TO 898026

- (A) ON-LOAD TAP-CHANGER TAKE-OFF LEAD (NEUTRAL)
- (M) DRIVE SIDE OF SELECTOR

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

SELECTOR SIZE	B		
U _M [KV]	72,5	123	170
DIMENSIONS [MM]	h	1942	2072
	i	863	993
	s	-	267
OIL VOLUME [DM ³]	130	150	170
DISPLACEMENT [DM ³]	190	220	240
MAX. WEIGHT [KG]	280	285	290

DIMENSION IN mm EXCEPT AS NOTED

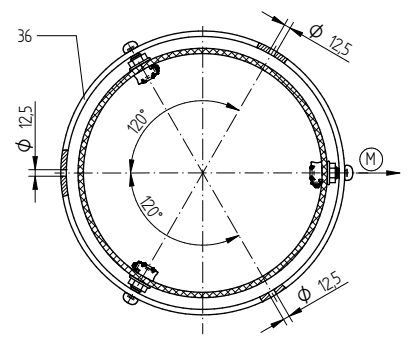
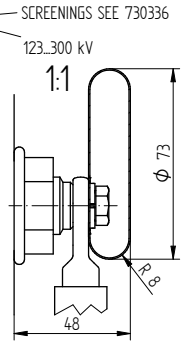
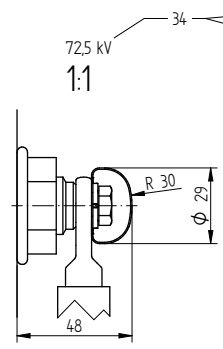
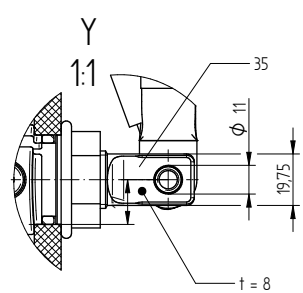
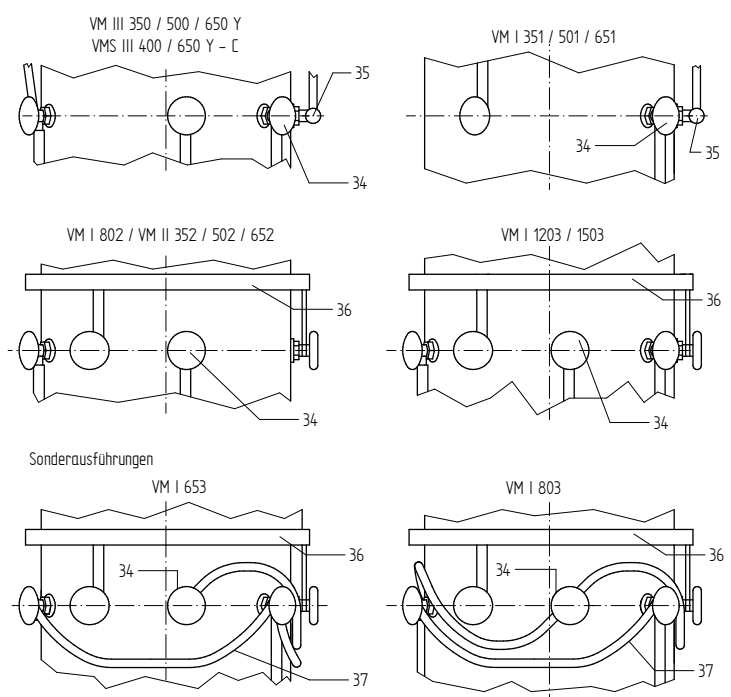
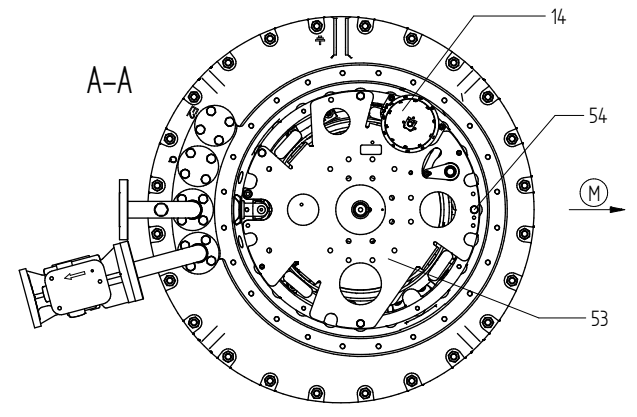
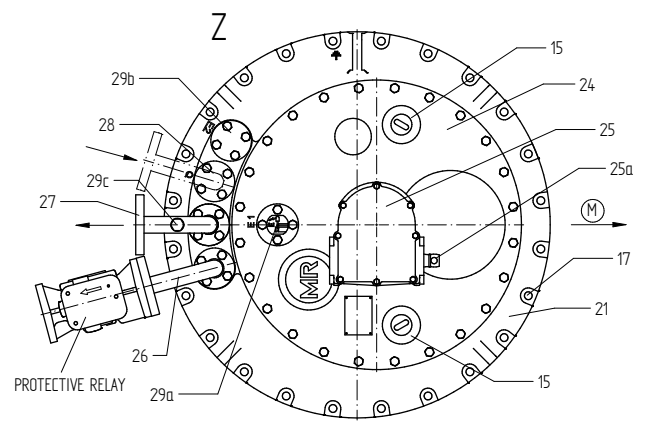
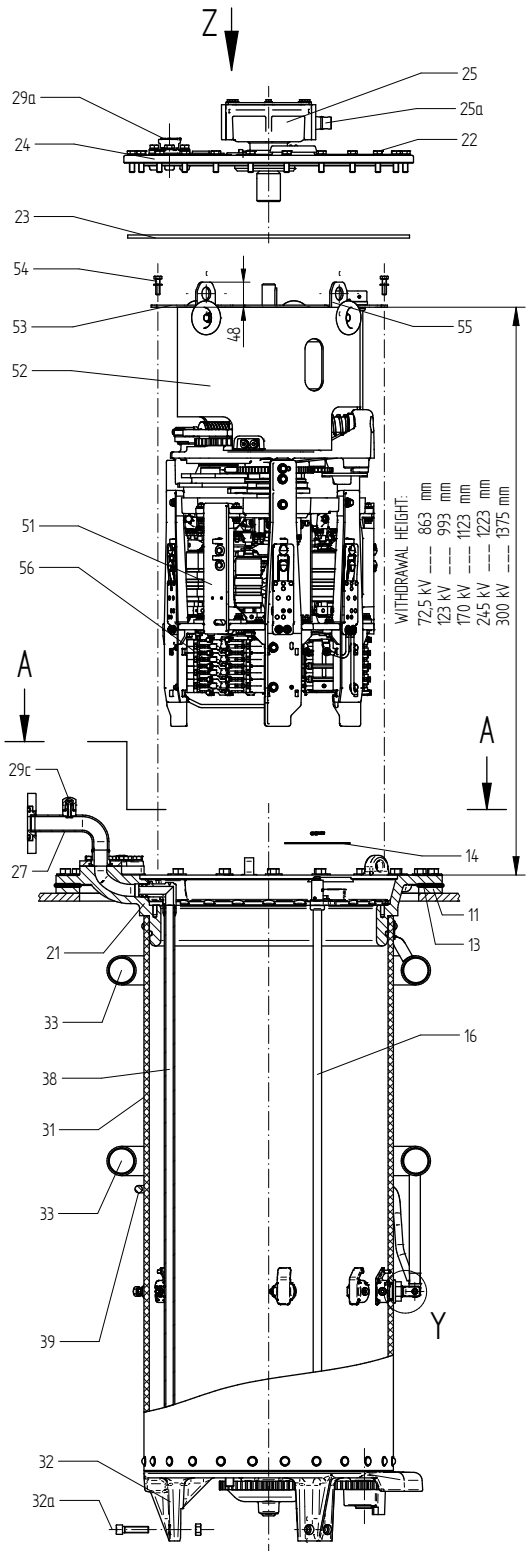


ON-LOAD TAP-CHANGER VACUTAP® VMS®
 VMS III 400 Y - B - O/W/G
 DIMENSION DRAWING

SERIAL NUMBER

MATERIAL NUMBER	SHEET
101165600E	1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 Weitergabe sowie Vervielfältigung dieses Dokuments, Verwertung und Mitteilung seines Inhaltes sind verboten, soweit nicht ausdrücklich gestattet.
 Zuwiderhandlungen verpflichten zu Schadensersatz. Alle Rechte für den Fall der Patent-, Gebrauchsmuster- oder Designeintragung vorbehalten.



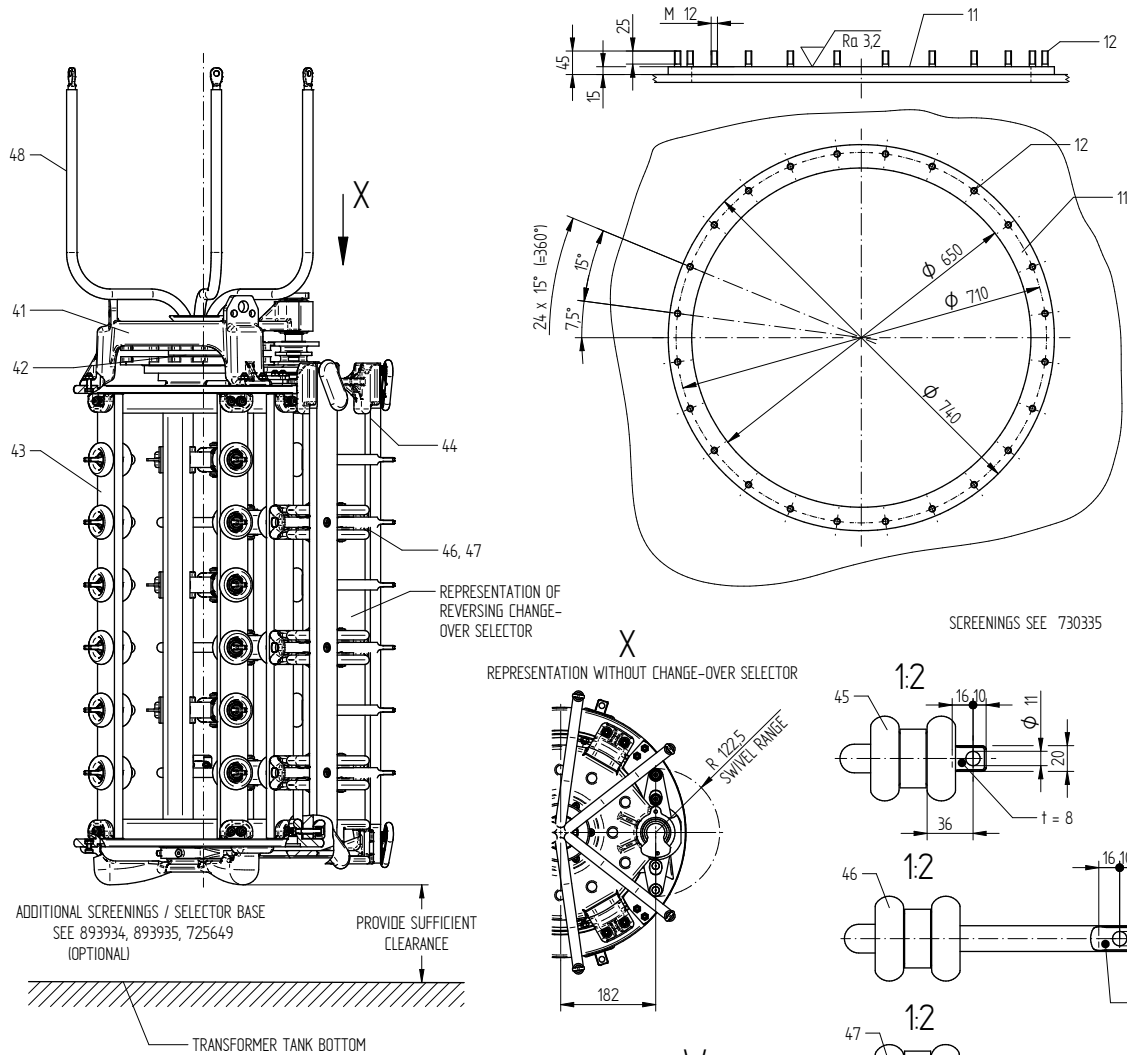
Datum	Name	Dokumentnummer
13.07.2018	BUTERUS	SED 2317110 001 03
Gez. bepr.	WILHELM	Änderungsnummer
16.07.2018	PRODASTSCHUK	1086956
Norm.		15

Maßangaben in mm, soweit nicht anders angegeben



ON-LOAD TAP-CHANGER VACUTAP® VM®, VMS®-C
 M-SELECTOR SIZE B/C/D/DE (CENTRIC DRIVE)
 INSTALLATION DRAWING

Serialnummer	
Materialnummer	Blatt
7462303E	1/2



- 11 MOUNTING FLANGE ON TRANSFORMER COVER
- 12 FIXING BOLT M12
- 13 ON-LOAD TAP-CHANGER HEAD GASKET
- 14 TAP POSITION INDICATOR
- 15 INSPECTION WINDOW
- 16 DRIVE SHAFT FOR TAP POSITION INDICATOR
- 17 THROUGH-HOLES 15mm IN DIAMETER

- 21 ON-LOAD TAP-CHANGER HEAD
- 22 COVER BOLT
- 23 COVER GASKET
- 24 ON-LOAD TAP-CHANGER HEAD COVER
- 25 CENTRIC GEAR UNIT WITH DRIVE SHAFT 25a
- 26 PIPE CONNECTING R FOR PROTECTIVE RELAY
- 27 PIPE CONNECTING S FOR SUCTION PIPE
- 28 PIPE CONNECTING Q FOR OIL RETURN PIPE (WITH OIL FILTER ONLY)
- 29a AIR-VENT VALVE OF ON-LOAD TAP-CHANGER HEAD COVER
- 29b BLEEDING FACILITY FOR TRANSFORMER OIL COMPARTMENT
- 29c VENT SCREW FOR SUCTION PIPE

(M) → DRIVE SIDE OF SELECTOR

** NOT WITH MULTIPLE COARSE CHANGE-OVER SELECTOR

- 31 DIVERTER SWITCH OIL COMPARTMENT
- 32 OIL COMPARTMENT BASE WITH SUPPORTING BOLT 32a
- 33 SCREENING RINGS (WITH Um = 170 kV; 245 kV; 300 kV ONLY)
- 34 OIL COMPARTMENT CONNECTION TERMINAL
- 35 TERMINAL:
VM III 350/500/650, VMS III 400/650: NEUTRAL CONNECTION
VM I 351/501/651: TAKE-OFF TERMINAL
- 36 ON-LOAD TAP-CHANGER TAKE-OFF RING (ONLY VM I 802/803/1203/1503)
- 37 CONNECTING LEAD (ONLY VM I 653/803)
- 38 SUCTION PIPE
- 39 SCREENING RING (WITH Um = 123 kV ONLY)
- 41 SELECTOR SUSPENSION
- 42 SELECTOR GEAR
- 43 TAP SELECTOR
- 44 CHANGE-OVER SELECTOR
- 45 SELECTOR CONNECTION CONTACT (SEE CORRESPONDING DIMENSION DRAWING)
- 46 CHANGE-OVER SELECTOR CONNECTION CONTACT "K" OR "O" **
- 47 CHANGE-OVER SELECTOR CONNECTION CONTACT "+", "—" OR "—" **
- 48 SELECTOR CONNECTING LEAD

- 51 DIVERTER SWITCH INSERT
- 52 SUPPORTING CYLINDER
- 53 BASE PLATE
- 54 FIXING BOLT
- 55 EYEBOLT WITH THROUGH-HOLE 25 mm IN DIAMETER
- 56 TRANSITION RESISTORS

Datum	Name	Dokumentnummer
13.07.2018	BUTERUS	SED 231710 001 03
Gez. bepr.	WILHELM	Änderungsnummer
16.07.2018	PRODASTSCHUK	1086956
Norm.		15

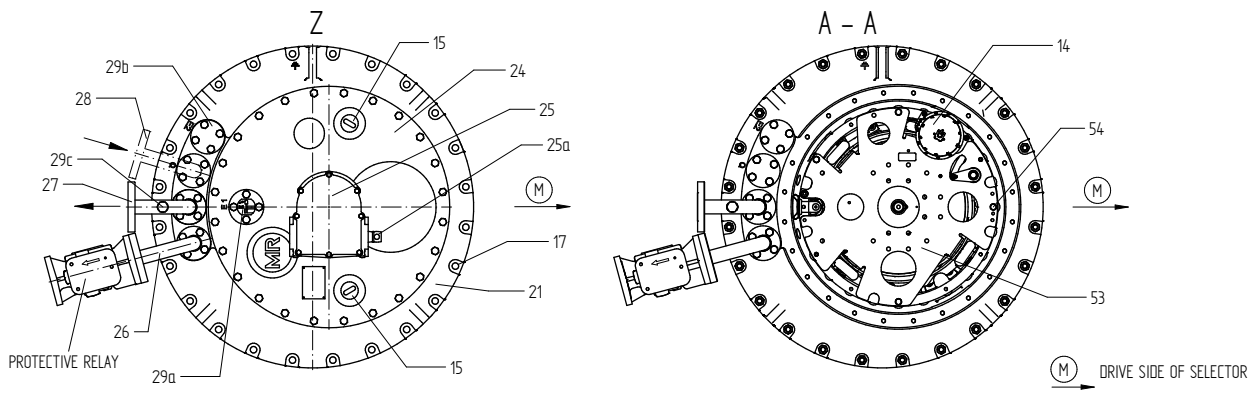
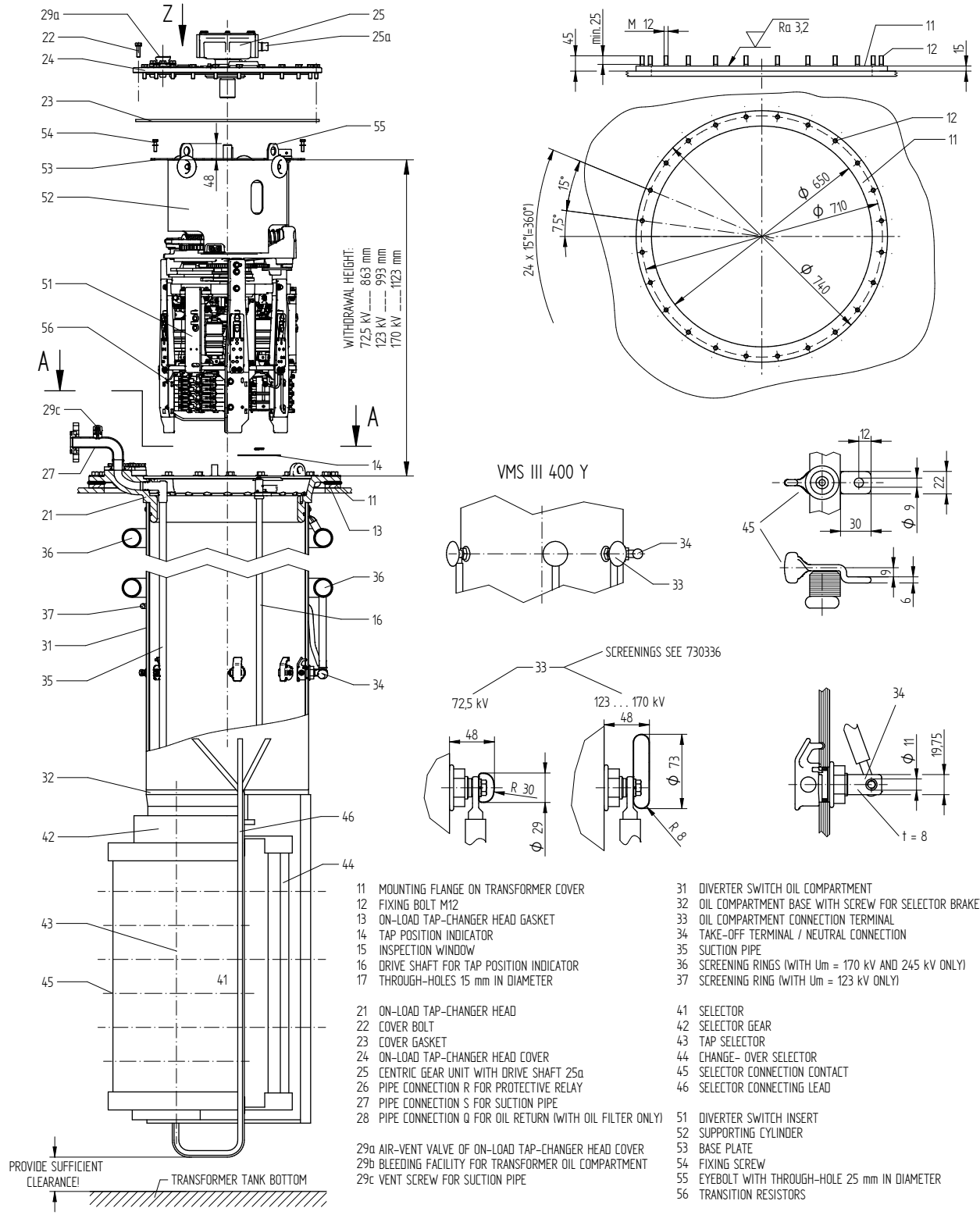
Maßangaben in mm, soweit nicht anders angegeben



ON-LOAD TAP-CHANGER VACUTAP® VM®, VMS®-C
M-SELECTOR SIZE B/C/D/DE (CENTRIC DRIVE)
INSTALLATION DRAWING

Serialnummer	
Materialnummer	Blatt
7462303E	2/2

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF A PATENT, UTILITY MODEL OR DESIGN.



- 11 MOUNTING FLANGE ON TRANSFORMER COVER
- 12 FIXING BOLT M12
- 13 ON-LOAD TAP-CHANGER HEAD GASKET
- 14 TAP POSITION INDICATOR
- 15 INSPECTION WINDOW
- 16 DRIVE SHAFT FOR TAP POSITION INDICATOR
- 17 THROUGH-HOLES 15 mm IN DIAMETER
- 21 ON-LOAD TAP-CHANGER HEAD
- 22 COVER BOLT
- 23 COVER GASKET
- 24 ON-LOAD TAP-CHANGER HEAD COVER
- 25 CENTRIC GEAR UNIT WITH DRIVE SHAFT 25a
- 26 PIPE CONNECTION R FOR PROTECTIVE RELAY
- 27 PIPE CONNECTION S FOR SUCTION PIPE
- 28 PIPE CONNECTION Q FOR OIL RETURN (WITH OIL FILTER ONLY)
- 29a AIR-VENT VALVE OF ON-LOAD TAP-CHANGER HEAD COVER
- 29b BLEEDING FACILITY FOR TRANSFORMER OIL COMPARTMENT
- 29c VENT SCREW FOR SUCTION PIPE
- 31 DIVERTER SWITCH OIL COMPARTMENT
- 32 OIL COMPARTMENT BASE WITH SCREW FOR SELECTOR BRACKET
- 33 OIL COMPARTMENT CONNECTION TERMINAL
- 34 TAKE-OFF TERMINAL / NEUTRAL CONNECTION
- 35 SUCTION PIPE
- 36 SCREENING RINGS (WITH Um = 170 kV AND 245 kV ONLY)
- 37 SCREENING RING (WITH Um = 123 kV ONLY)
- 41 SELECTOR
- 42 SELECTOR GEAR
- 43 TAP SELECTOR
- 44 CHANGE-OVER SELECTOR
- 45 SELECTOR CONNECTION CONTACT
- 46 SELECTOR CONNECTING LEAD
- 51 DIVERTER SWITCH INSERT
- 52 SUPPORTING CYLINDER
- 53 BASE PLATE
- 54 FIXING SCREW
- 55 EYEBOLT WITH THROUGH-HOLE 25 mm IN DIAMETER
- 56 TRANSITION RESISTORS

DOCUMENT NO.	SED 6018599 001 00
NAME	BUTERUS WILHELM
DATE	11.07.2018
DFTR.	16.07.2018
CHKD.	16.07.2018
SCALE	1
CHANGE NO.	1086956
STAND.	PRODASTSCHUK

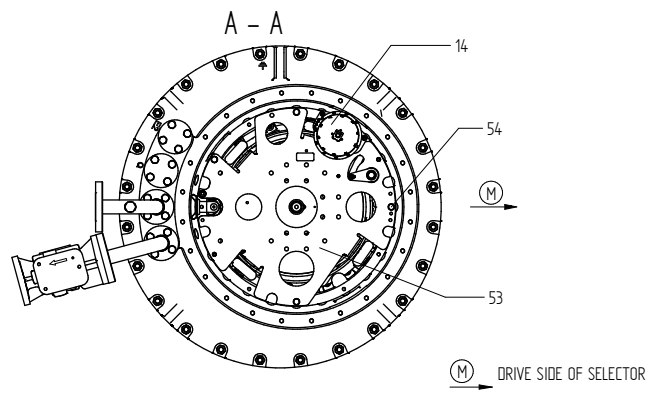
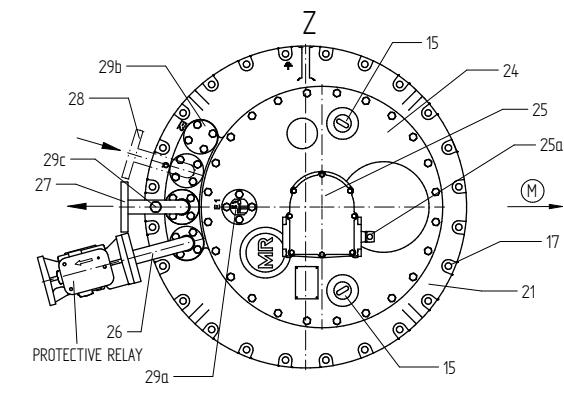
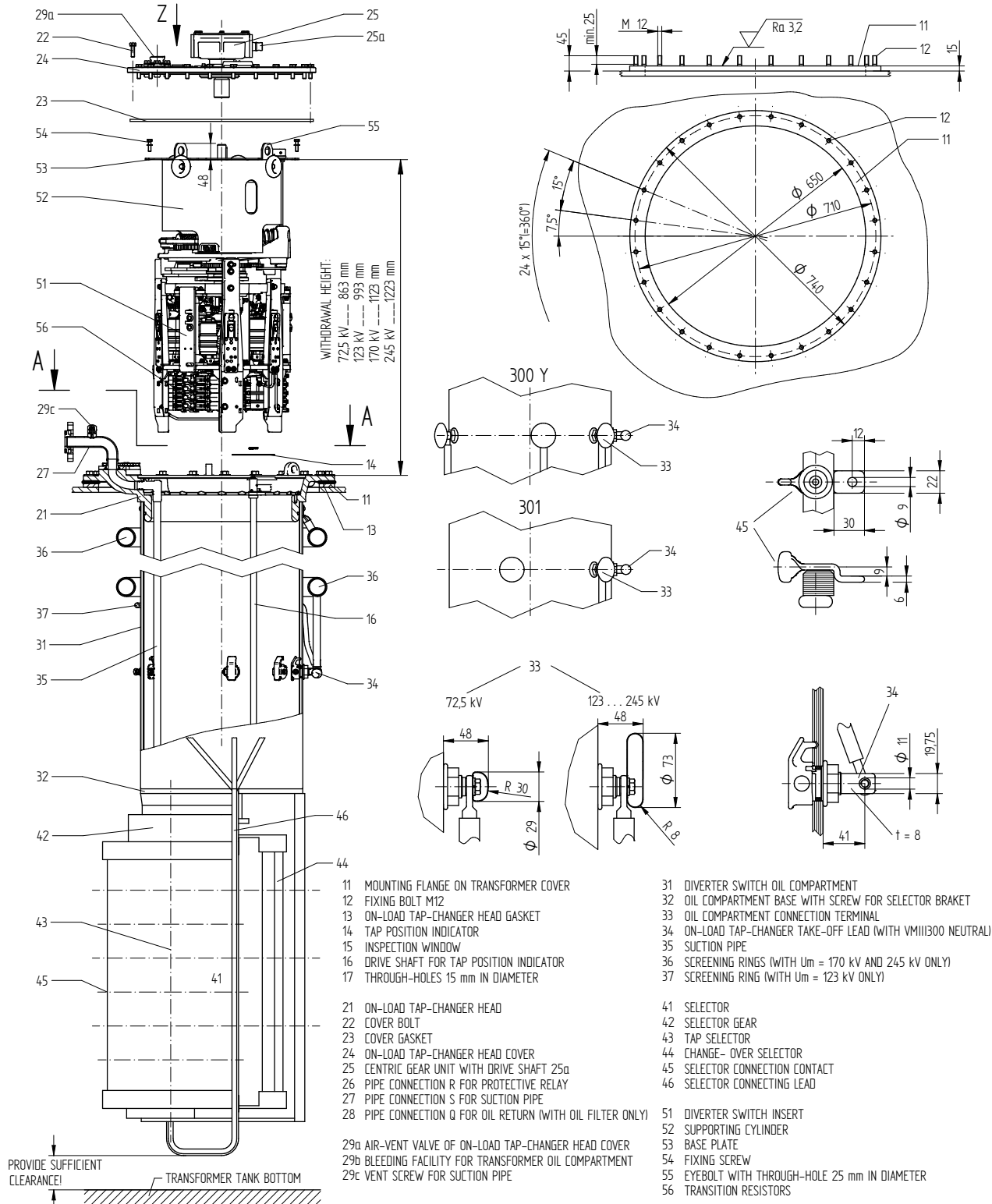
DIMENSION IN mm EXCEPT AS NOTED



ON-LOAD TAP-CHANGER VACUTAP® VMS®
SELECTOR SIZE B (CENTRIC DRIVE)
INSTALLATION DRAWING

SERIAL NUMBER	
MATERIAL NUMBER	SHEET
101170220E	1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2017
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF A PATENT, UTILITY MODEL OR DESIGN.



- 11 MOUNTING FLANGE ON TRANSFORMER COVER
- 12 FIXING BOLT M12
- 13 ON-LOAD TAP-CHANGER HEAD GASKET
- 14 TAP POSITION INDICATOR
- 15 INSPECTION WINDOW
- 16 DRIVE SHAFT FOR TAP POSITION INDICATOR
- 17 THROUGH-HOLES 15 mm IN DIAMETER
- 21 ON-LOAD TAP-CHANGER HEAD
- 22 COVER BOLT
- 23 COVER GASKET
- 24 ON-LOAD TAP-CHANGER HEAD COVER
- 25 CENTRIC GEAR UNIT WITH DRIVE SHAFT 25a
- 26 PIPE CONNECTION R FOR PROTECTIVE RELAY
- 27 PIPE CONNECTION S FOR SUCTION PIPE
- 28 PIPE CONNECTION Q FOR OIL RETURN PIPE (WITH OIL FILTER ONLY)
- 29a AIR-VENT VALVE OF ON-LOAD TAP-CHANGER HEAD COVER
- 29b BLEEDING FACILITY FOR TRANSFORMER OIL COMPARTMENT
- 29c VENT SCREW FOR SUCTION PIPE
- 31 DIVERTER SWITCH OIL COMPARTMENT
- 32 OIL COMPARTMENT BASE WITH SCREW FOR SELECTOR BRACKET
- 33 OIL COMPARTMENT CONNECTION TERMINAL
- 34 ON-LOAD TAP-CHANGER TAKE-OFF LEAD (WITH VMIII300 NEUTRAL)
- 35 SUCTION PIPE
- 36 SCREENING RINGS (WITH $U_m = 170$ kV AND 245 kV ONLY)
- 37 SCREENING RING (WITH $U_m = 123$ kV ONLY)
- 41 SELECTOR
- 42 SELECTOR GEAR
- 43 TAP SELECTOR
- 44 CHANGE-OVER SELECTOR
- 45 SELECTOR CONNECTION CONTACT
- 46 SELECTOR CONNECTING LEAD
- 51 DIVERTER SWITCH INSERT
- 52 SUPPORTING CYLINDER
- 53 BASE PLATE
- 54 FIXING SCREW
- 55 EYEBOLT WITH THROUGH-HOLE 25 mm IN DIAMETER
- 56 TRANSITION RESISTORS

DOCUMENT NO.	SED 2416809 001 02
NAME	RAEDLINGER HAUER
DATE	10.02.2017
CHKD.	29.03.2017
STAND.	29.03.2017
SCALE	1
CHANGE NO.	1079192
PRODASTSCHUK	

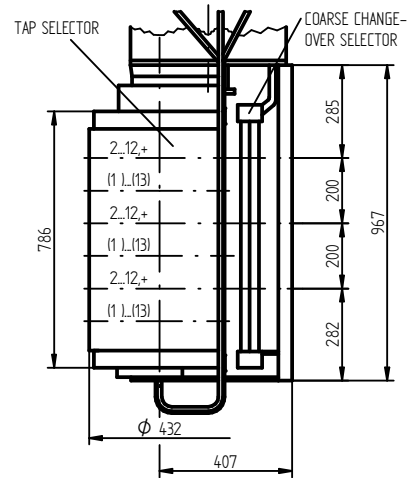
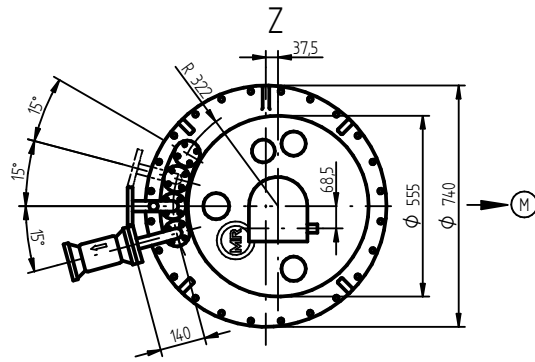
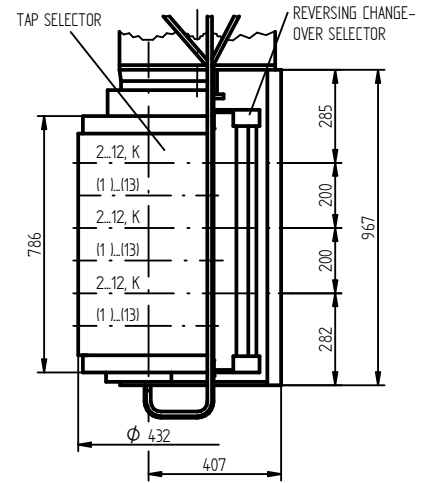
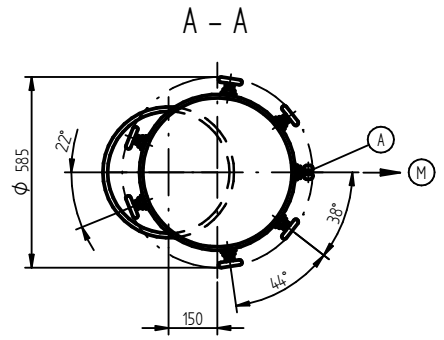
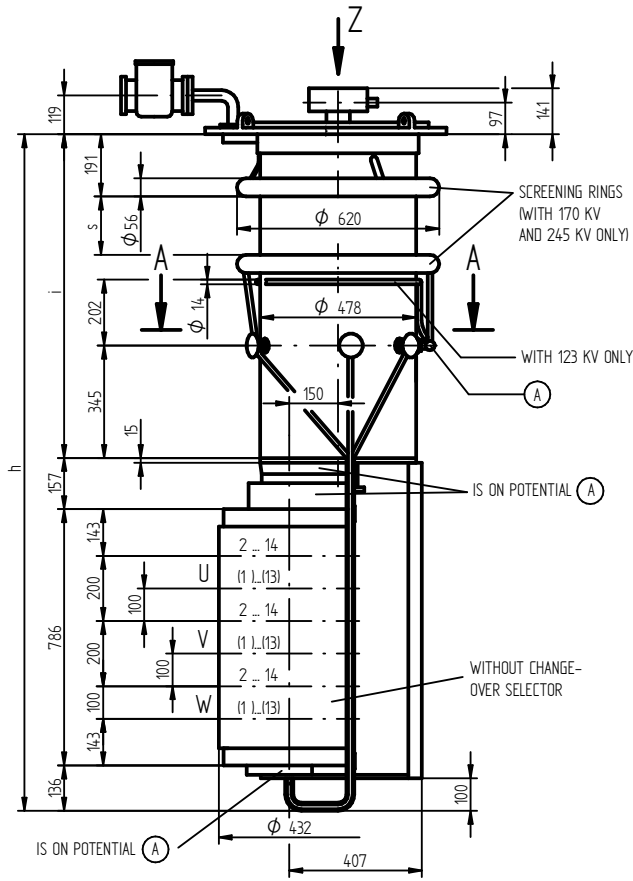
DIMENSION IN mm EXCEPT AS NOTED



ON-LOAD TAP-CHANGER VACUTAP® VM 300
 SELECTOR SIZE B (CENTRIC DRIVE)
 INSTALLATION DRAWING

SERIAL NUMBER	
MATERIAL NUMBER	SHEET
7651922E	1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



DATE	NAME	DOCUMENT NO.
18.11.2015	RAEDLINGER	SED 2532402 001 02
CHKD.	TKBIRKMAN	SCALE
01.12.2015	PRODASTSCHUK	1:8
STAND		CHANGE NO.
		1069171

FOR INHERENT DRAWINGS REFER TO 898026

- (A) ON-LOAD TAP-CHANGER TAKE-OFF LEAD (NEUTRAL)
- (M) DRIVE SIDE OF SELECTOR

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

SELECTOR SIZE	B			
U_M [KV]	72,5	123	170	245
DIMENSIONS [MM]	h	1942	2072	2202
	i	863	993	1123
	s	-		267
OIL VOLUME [DM ³]	130	150	170	190
DISPLACEMENT [DM ³]	190	220	240	260
MAX. WEIGHT [KG]	280	285	290	295

DIMENSION IN mm EXCEPT AS NOTED

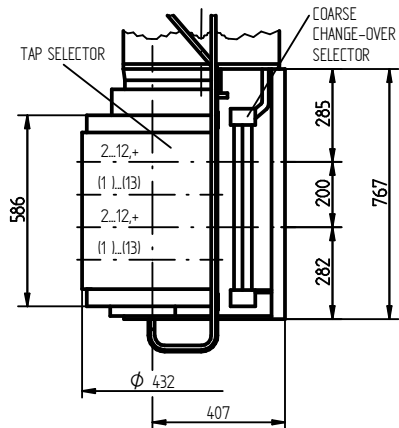
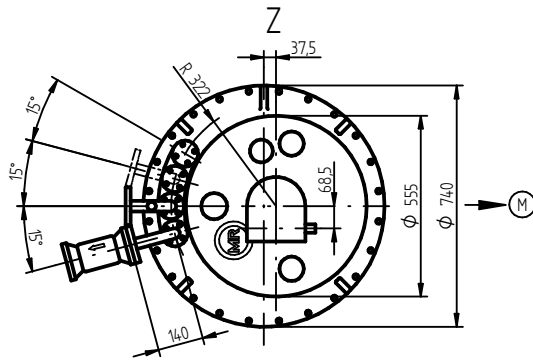
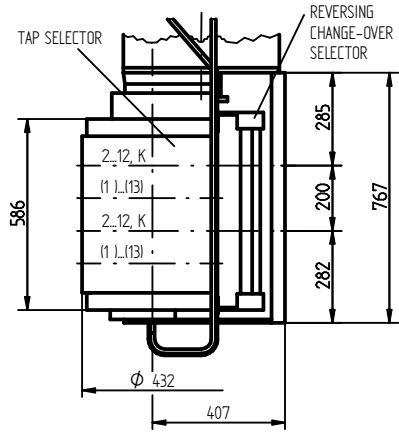
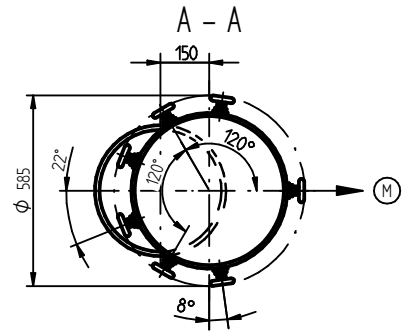
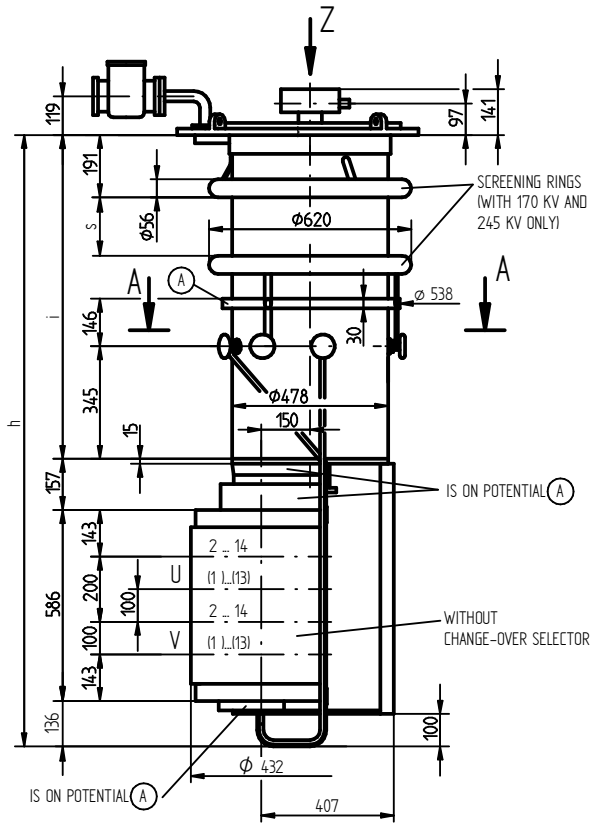


ON-LOAD TAP-CHANGER VACUTAP® VM®
 VM III 300 Y - B- 0/W/G
 DIMENSION DRAWING

SERIAL NUMBER

MATERIAL NUMBER 7686982E
 SHEET 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2016
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



DATE	NAME	DOCUMENT NO.
01.04.2016	RAEDLINGER	SED 2742981 001 02
CHKD. 11.04.2016	MENZELS	SCALE
STAND. 11.04.2016	PRODASTSCHUK	18
		CHANGE NO. 1073378

FOR INHERENT DRAWINGS REFER TO 898026

- (A) ON-LOAD TAP-CHANGER TAKE-OFF TERMINAL
- (M) DRIVE SIDE OF SELECTOR

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

SELECTOR SIZE	B			
U _M [KV]	72,5	123	170	245
DIMENSIONS [MM]	h	1742	1872	2002
	i	863	993	1123
	s	-		267
OIL VOLUME [DM ³]	130	150	170	190
DISPLACEMENT [DM ³]	180	210	230	250
MAX. WEIGHT [KG]	260	265	270	275

DIMENSION IN mm EXCEPT AS NOTED



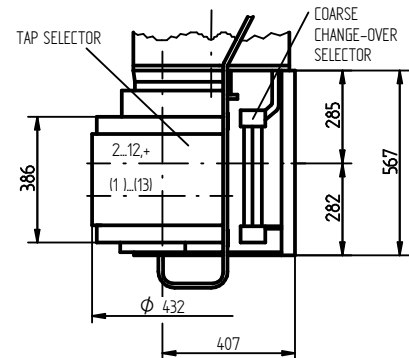
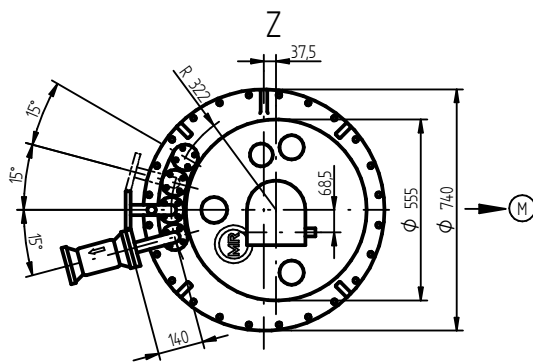
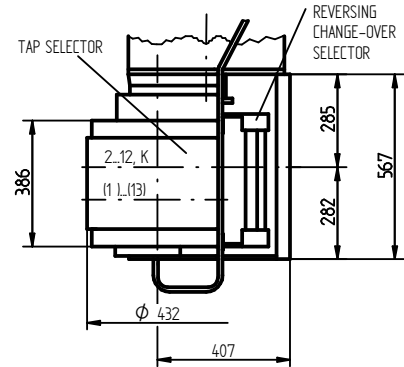
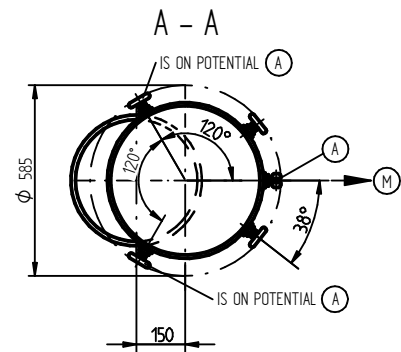
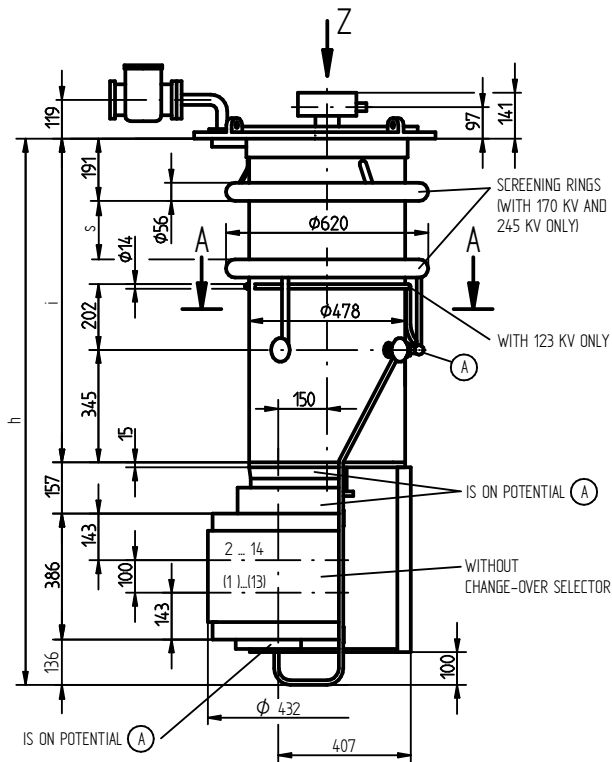
ON-LOAD TAP-CHANGER VACUTAP® VM®
 VM II 302 - B - 0/W/G
 DIMENSION DRAWING

SERIAL NUMBER

MATERIAL NUMBER
 7692252E

SHEET
 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



FOR INHERENT DRAWINGS REFER TO 898026

- (A) ON-LOAD TAP-CHANGER TAKE-OFF LEAD
- (M) DRIVE SIDE OF SELECTOR

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

SELECTOR SIZE	B			
U_M [KV]	72,5	123	170	245
DIMENSIONS [MM]	h	1542	1672	1802
	i	863	993	1123
	s	—		267
OIL VOLUME [DM ³]	130	150	170	190
DISPLACEMENT [DM ³]	160	190	210	230
MAX. WEIGHT [KG]	240	245	250	255

DATE	NAME	DOCUMENT NO.
18.11.2015	RAEDLINGER	SED 2743003 001 01
CHKD.	TKBIRKMANN	SCALE
01.12.2015	PRODASTSCHUK	1:8
STAND.	01.12.2015	1069171

DIMENSION
IN mm
EXCEPT AS
NOTED



ON-LOAD TAP-CHANGER VACUTAP® VM®
VM 1 301 - B - 0/W/G
DIMENSION DRAWING

SERIAL NUMBER

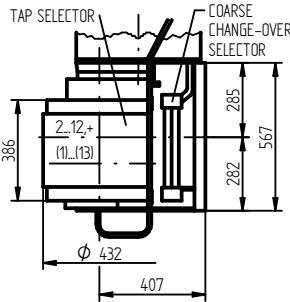
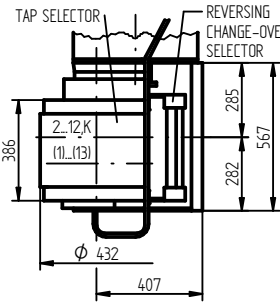
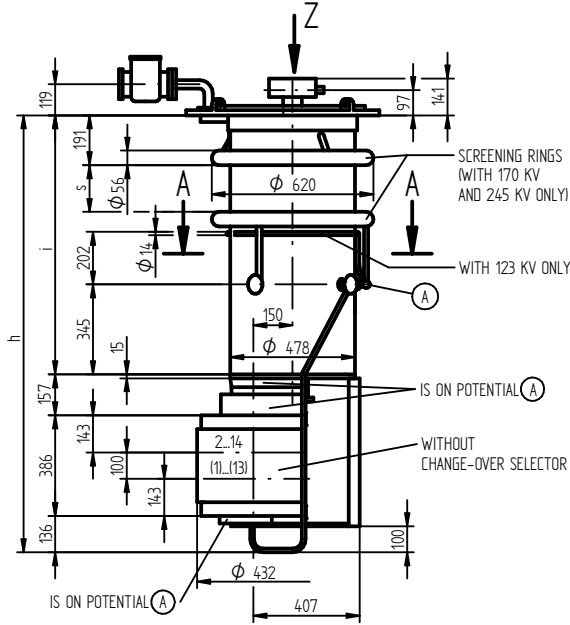
MATERIAL NUMBER
7692261E

SHEET
1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

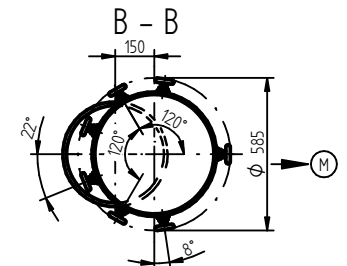
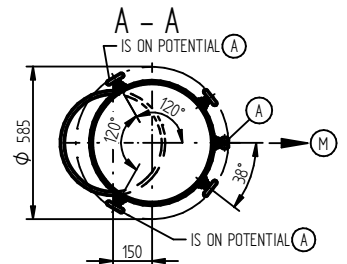
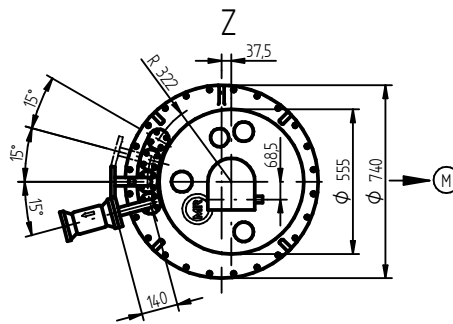
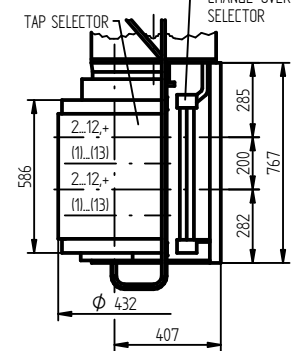
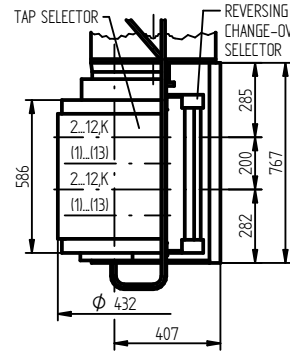
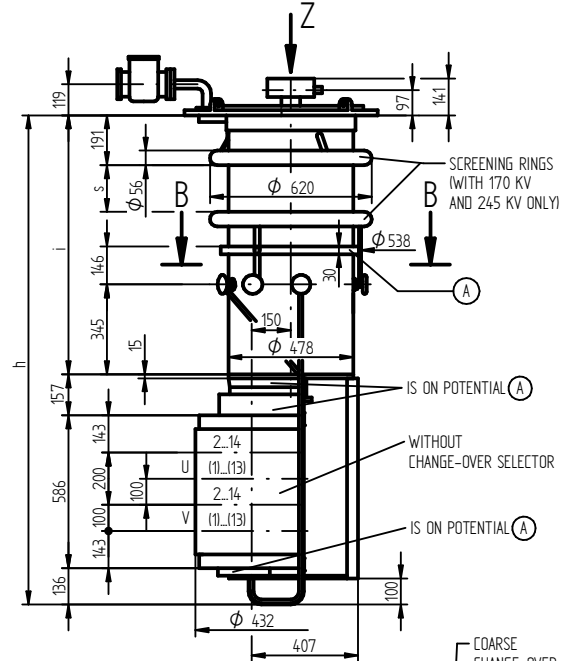
VM I 301 - 0 / W / G

SELECTOR SIDE		B			
Um [kV]		72.5	123	170	245
DIMENSIONS [MM]	h	1542	1672	1802	1902
	i	863	993	1123	1223
	s	-	-	267	367
OIL VOLUME [DM ³]		130	150	170	190
DISPLACEMENT [DM ³]		160	190	210	230
MAX. WEIGHT [KG]		240	245	250	255



VM II 302 - 0 / W / G

SELECTOR SIDE		B			
Um [kV]		72.5	123	170	245
DIMENSIONS [MM]	h	1742	1872	2002	2102
	i	863	993	1123	1223
	s	-	-	267	367
OIL VOLUME [DM ³]		130	150	170	190
DISPLACEMENT [DM ³]		180	210	230	250
MAX. WEIGHT [KG]		260	265	270	275



FOR INHERENT DRAWINGS REFER TO 898026

- (A) ON-LOAD TAP-CHANGER TAKE-OFF LEAD
- (M) DRIVE SIDE OF SELECTOR

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

DATE	NAME	DOCUMENT NO.
18.11.2015	RAEDLINGER	SED 2559763 001 02
01.12.2015	TKBIRKMAN	CHANGE NO.
01.12.2015	PRODASTSCHUK	1069171
		SCALE 1:10

DIMENSION IN mm EXCEPT AS NOTED



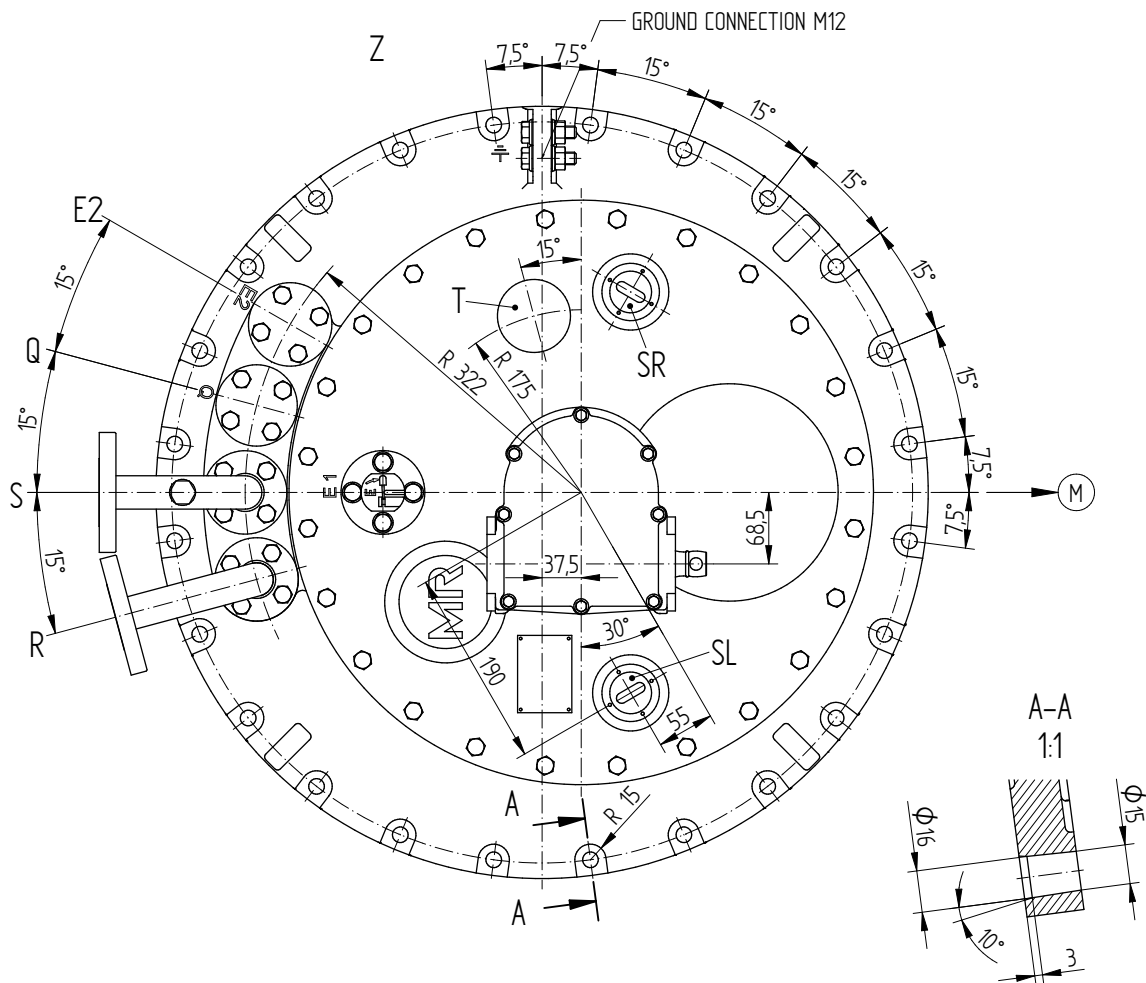
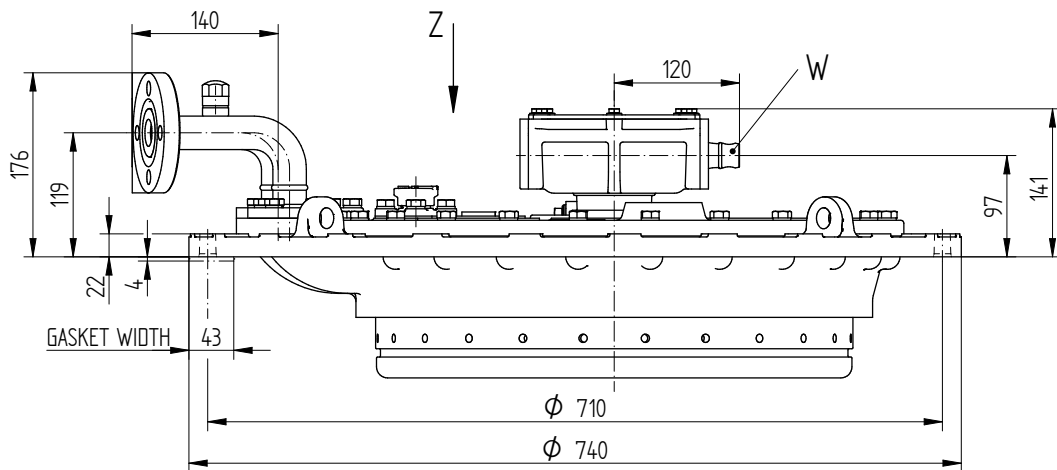
ON-LOAD TAP-CHANGER VACUTAP® VM®
 VM III 300 K - B - 0/W/G
 DIMENSION DRAWING

SERIAL NUMBER

MATERIAL NUMBER 7688512E SHEET 1/1

4.3 有载分接开关头

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



E1 = BLEEDING FACILITY FOR ON-LOAD TAP-CHANGER HEAD

E2 = BLEEDING FACILITY FOR SPACE UNDER THE HEAD OUTSIDE

THE TAP-CHANGER OIL COMPARTMENT (SAME PIPE CONNECTION AS R, S, Q OR BLEEDER SCREW CAN BE USED)

Q = CONNECTION FOR OIL RETURN PIPE OR TAP-CHANGE SUPERVISORY CONTROL

S = CONNECTION FOR SUCTION PIPE

R = CONNECTION FOR PROTECTIVE RELAY (EXCHANGEABLE WITH CONNECTION Q)

T = THERMOMETER BAG / TEMPERATURE SENSOR (OPTIONALLY)

SR = INSPECTION WINDOW, RIGHT

SL = INSPECTION WINDOW, LEFT

W = DRIVE SHAFT

(M) DRIVE SIDE OF SELECTOR

CONNECTIONS SWIVELING
 DIMENSIONS AND SELECTION 899496: / 899497:

DOCUMENT NO.	DATE	NAME	DOCUMENT NO.
SED 1661272 001 04	11.07.2018	BUTERUS	SED 1661272 001 04
SCALE	CHKD.	WILHELM	SCALE
1:2,5	16.07.2018	PRODASTSCHUK	1:2,5
CHANGE NO.	STAND.		CHANGE NO.
1086956	16.07.2018		1086956

DIMENSION
 IN mm
 EXCEPT AS
 NOTED

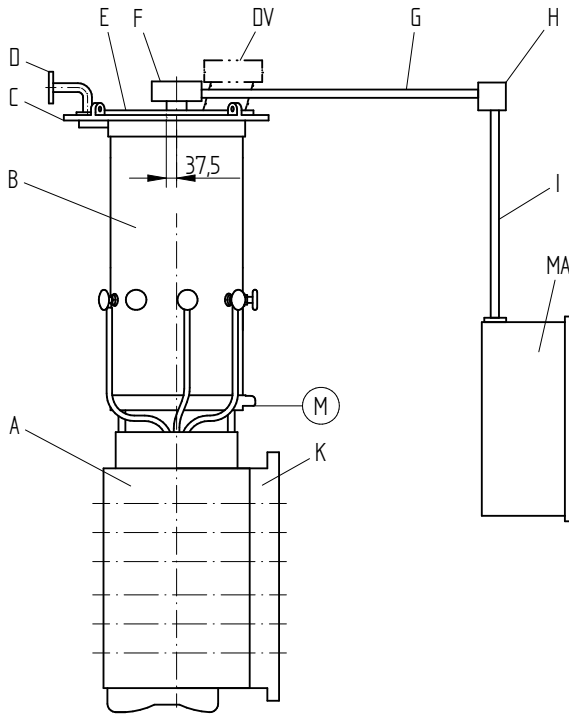


ON-LOAD TAP-CHANGER
 OILTAP® M, MS, R, RM AND VACUTAP® VR®, VM®, VMS®
 ON-LOAD TAP-CHANGER HEAD, CENTRIC DRIVE

SERIAL NUMBER

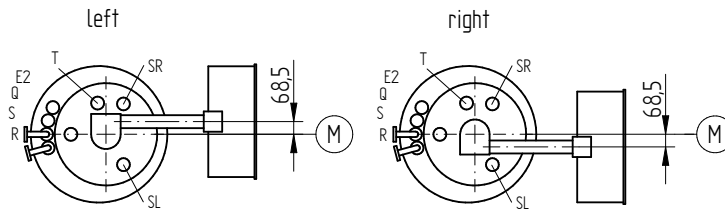
MATERIAL NUMBER
 893899FE

SHEET
 1/1

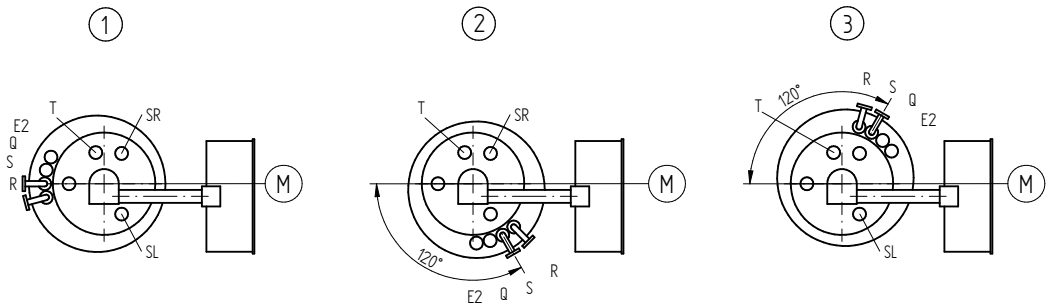


- A = selector
 - K = change-over selector
 - B = diverter switch oil compartment
 - C = on-load tap-changer head
 - D = pipe connections (R, S, Q, E2)
 - DV = pressure relief device
 - E = on-load tap-changer head cover
 - F = upper gear unit
 - G = drive shaft, horizontal
 - H = bevel gear
 - I = drive shaft, vertical
 - MA = motor-drive unit
 - (M) = drive side of selector
 - SR = inspection window on the right
 - SL = inspection window on the left
 - T = temperature sensor
- } represented
version
type M

Position of drive shaft of gear unit



Head variants



Swivel ranges

A considerable number of variants of the on-load tap-changer head are available for adapting the horizontal part of the drive shaft to the transformer tank.

The mounting position of the selector A and diverter switch oil compartment B is determined by the drive side of selector (M).

The on-load tap-changer head C together with its pipe connections D may be turned through 120 degrees clockwise or anti-clockwise. This results in the variants 1, 2 and 3.

The upper gear unit F can be turned continuously on its own axis. Table 720027: Lists the limitation of the swivel range for the particular head variant. The angle specifications refer to the center of rotation of the gear unit. Pay particular attention to the offset of the drive shaft.

DATE	11.07.2018	DOCUMENT NO.	SED 1063796 001 05
DATE	16.07.2018	NAME	BUTERUS
DATE	16.07.2018	NAME	WILHELM
DATE	16.07.2018	NAME	PRODASTSCHUK
CHG. NO.	1086956	SCALE	1

DIMENSION
IN mm
EXCEPT AS
NOTED



ON-LOAD TAP-CHANGER
OILTAP® MS, M, RM, R AND VACUTAP® VR®, VM®, VMS®
VARIANTS OF THE ON-LOAD TAP-CHANGER HEAD

SERIAL NUMBER

MATERIAL NUMBER
7200264E

SHEET
1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

DATE	NAME	DOCUMENT NO.
11.07.2018	BUTERUS	SED 1664686 001 04
16.07.2018	WILHELM	CHANGE NO. SCALE
16.07.2018	PRODASTSCHUK	1086956 1

SKETCH	HEAD VERSION COMPONENTS USED	LIMITATION OF THE SWIVEL RANGE
	DRIVE SHAFT RIGHT HEAD VERSION 1	-180° 0° 180°
	PIPE CONNECTION R	-168° 140°
	PIPE CONNECTION S	177°
	PIPE CONNECTION Q	162°
	PIPE CONNECTION E2	147° 174°
	PRESSURE RELIEF DEVICE DV	-150° -35°
	TEMPERATURE SENSOR T	96° 175°
INSPECTION WINDOW SL / SR	-64° SL -8° 56° SR 112°	
	DRIVE SHAFT RIGHT HEAD VERSION 2	-180° 0° 180°
	PIPE CONNECTION R	-48° -21°
	PIPE CONNECTION S	-63° -36°
	PIPE CONNECTION Q	-78° -51°
	PIPE CONNECTION E2	-93° -66°
	PRESSURE RELIEF DEVICE DV	-150° -35°
	TEMPERATURE SENSOR T	96° 175°
INSPECTION WINDOW SR	56° SR 112°	
	DRIVE SHAFT RIGHT HEAD VERSION 3	-180° 0° 180°
	PIPE CONNECTION R	72° 99°
	PIPE CONNECTION S	57° 84°
	PIPE CONNECTION Q	42° 69°
	PIPE CONNECTION E2	27° 54°
	PRESSURE RELIEF DEVICE DV	-150° -35°
	TEMPERATURE SENSOR T	96° 175°
INSPECTION WINDOW SL	-64° SL -8°	
	DRIVE SHAFT LEFT HEAD VERSION 1	-180° 0° 180°
	PIPE CONNECTION R	-162° 171°
	PIPE CONNECTION S	156°
	PIPE CONNECTION Q	141° 168°
	PIPE CONNECTION E2	126° 153°
	PRESSURE RELIEF DEVICE DV	35° 150°
	TEMPERATURE SENSOR T	34° 114°
INSPECTION WINDOW SL / SR	-112° SL -56° 8° SR 64°	
	DRIVE SHAFT LEFT HEAD VERSION 2	-180° 0° 180°
	PIPE CONNECTION R	-69° -42°
	PIPE CONNECTION S	-84° -57°
	PIPE CONNECTION Q	-99° -72°
	PIPE CONNECTION E2	-114° -87°
	PRESSURE RELIEF DEVICE DV	35° 150°
	TEMPERATURE SENSOR T	34° 114°
INSPECTION WINDOW SR	8° SR 64°	
	DRIVE SHAFT LEFT HEAD VERSION 3	-180° 0° 180°
	PIPE CONNECTION R	50° 78°
	PIPE CONNECTION S	35° 62°
	PIPE CONNECTION Q	21° 48°
	PIPE CONNECTION E2	6° 33°
	PRESSURE RELIEF DEVICE DV	35° 150°
	TEMPERATURE SENSOR T	34° 114°
INSPECTION WINDOW SL	-112° SL -56°	

- LIMITATION OF THE SWIVEL RANGE THROUGH PIPE CONNECTIONS R AND S
- LIMITATION OF THE SWIVEL RANGE THROUGH OPTIONAL EXISTING PIPE CONNECTIONS Q, E2 AND PRESSURE RELIEF DEVICE DV
- SWIVEL RANGE POSSIBLE, BUT THE TEMPERATURE SENSOR T AND THE INSPECTION WINDOW SL / SR ARE NOT VISIBLE

DIMENSION
IN mm
EXCEPT AS
NOTED



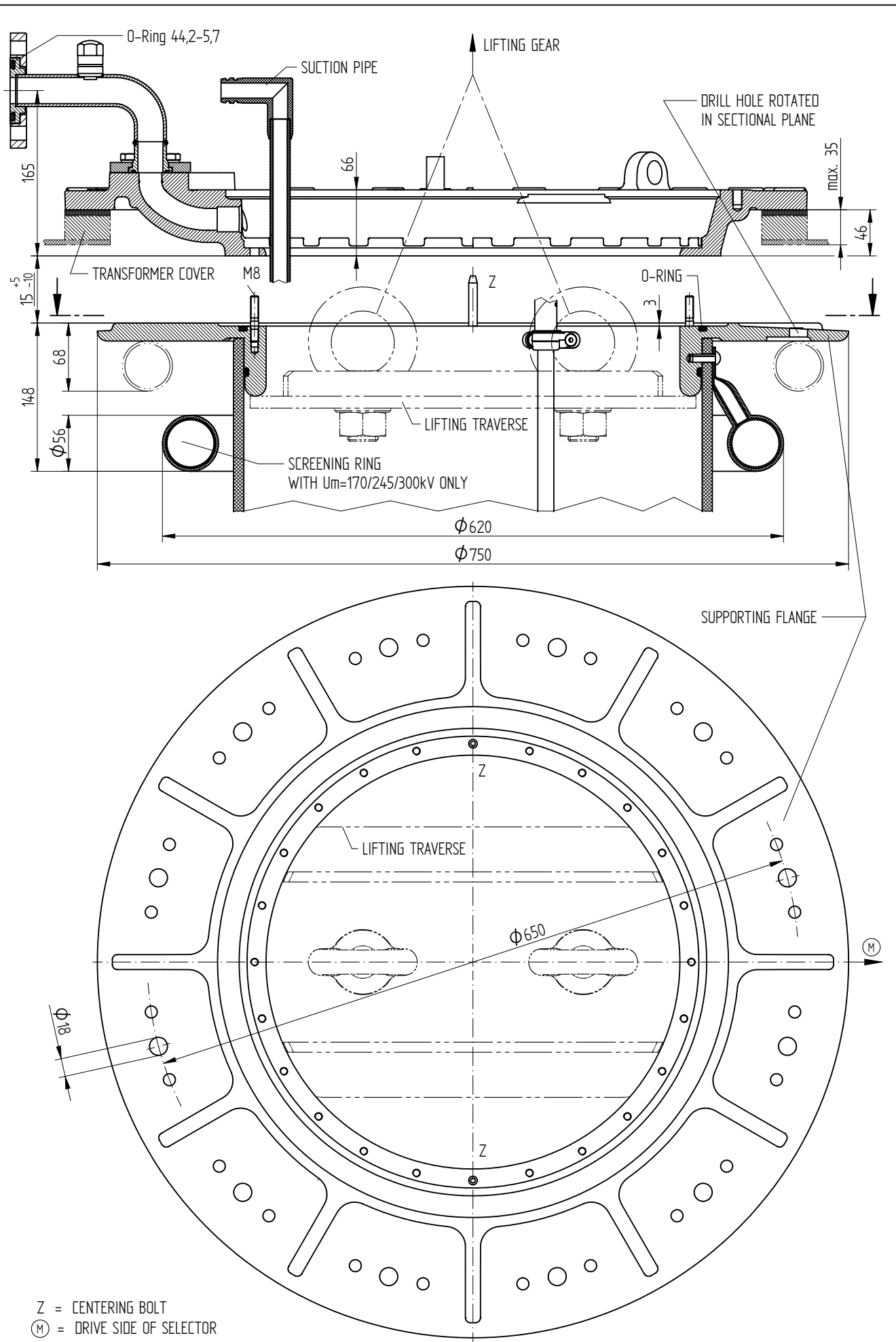
ON-LOAD TAP-CHANGER
 OILTAP® MS, M, RM, R AND VACUTAP® VR®, VM®, VMS®
 SWIVEL RANGE OF THE GEAR UNIT

SERIAL NUMBER

MATERIAL NUMBER
7200276E

SHEET
1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



DATE	NAME	DOCUMENT NO.
13.07.2018	BUTERUS	SED 1507378 000 04
16.07.2018	WILHELM	CHANGE NO.
16.07.2018	PRODASTSCHUK	1086956
		SCALE
		1:2,5

DIMENSION
 IN mm
 EXCEPT AS
 NOTED

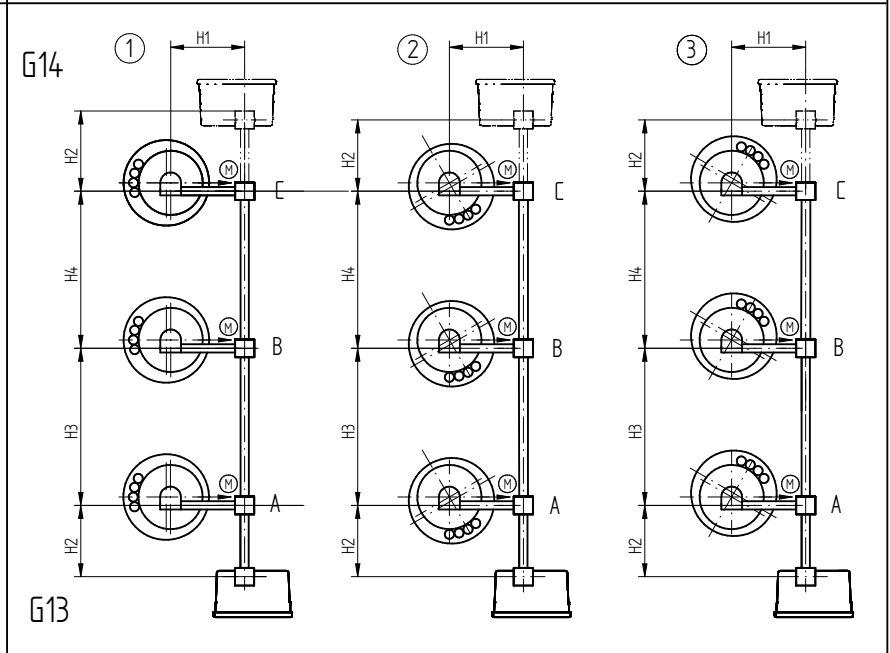
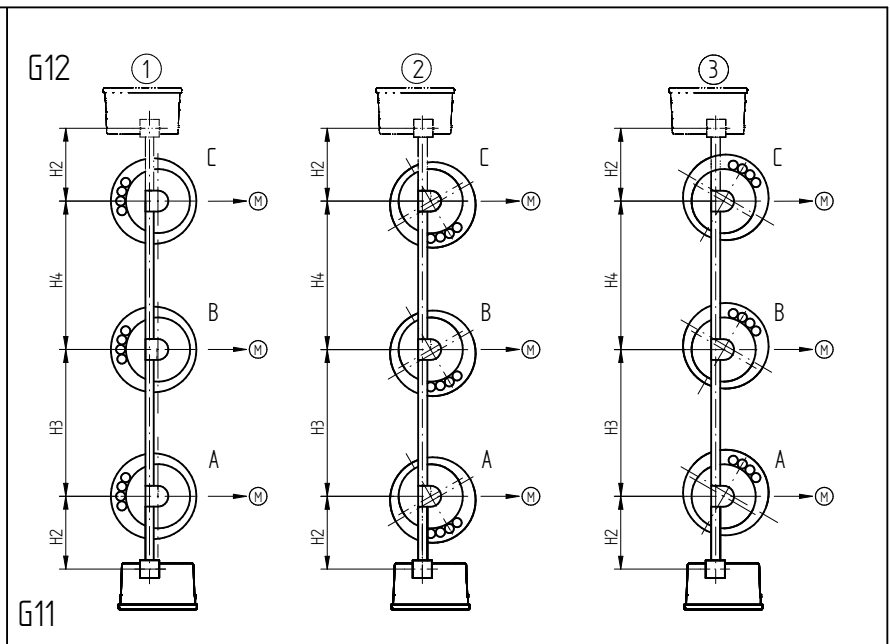
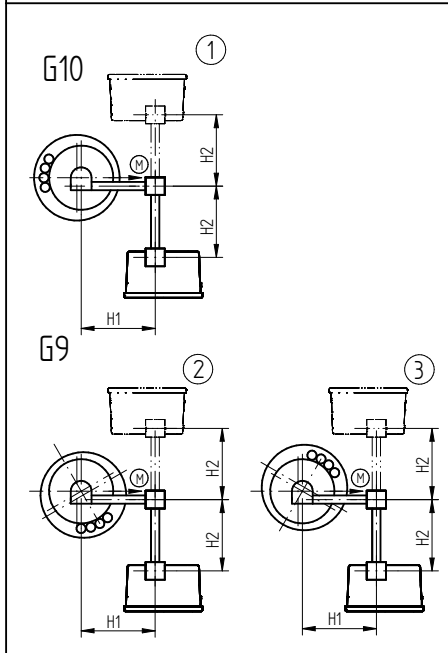
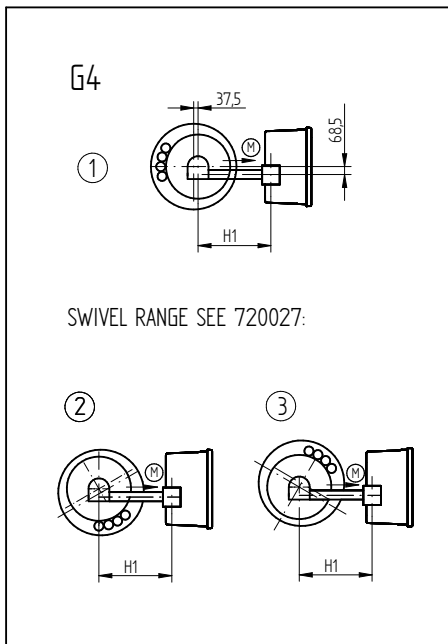


ON-LOAD TAP-CHANGER
 OILTAP® M, R, RM, MS AND VACUTAP® VM®, VMS®
 SPECIAL DESIGN BELL-TYPE TANK INSTALLATION FOR U_m UP TO 300 kV

SERIAL NUMBER	
MATERIAL NUMBER	SHEET
896762CE	1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

DATE	NAME	DOCUMENT NO.
13.07.2018	BUTERUS	SED 1706827 001 05
16.07.2018	WILHELM	CHANGE NO.
16.07.2018	PRODASTSCHUK	1086956
CHKO.	SCALE	1



ARRANGEMENT	G4	G9, G10	G11, G12	G13, G14	
STANDARD DESIGN	■		■		
SPECIAL DESIGN		■		■	
MINIMUM DIMENSIONS ¹⁾ (DETERMINED FOR MECHANICAL REASONS; NECESSARY INSULATION SPACINGS NOT CONSIDERED!)	H1	535	545	-	545
	H2	-	323	515	323
	H3 ²⁾	-	-	840	840
	H4 ²⁾	-	-	840	840
NOTE: 1) FOR OLTCs WITH THE CHANGE-OVER SELECTOR ATTACHED Laterally, THE DIMENSIONS OF THE CHANGE-OVER SELECTOR AFTER INSTALLED IN POSITION HAVE TO BE TAKEN INTO ACCOUNT (SEE THE CORRESPONDING OLTC-DIMENSION DRAWING) 2) IN GENERAL DETERMINED BY THE INSULATION SPACING BETWEEN POLES A, B, C.					
INTERMEDIATE BEARING FOR	H1 >	2254	2309	-	2309
	H2 >	-	2259	2254	2259
	H3 >	-	-	2249	2259
	H4 >	-	-	2249	2259

① ② ③ - HEAD VERSION
 → (M) - DRIVE SIDE OF SELECTOR

DIMENSION IN mm EXCEPT AS NOTED



OLTC OILTAP® M, MS, RM, R / VACUTAP® VR®, VM®, VMS®
 HORIZONTAL DRIVE SHAFT, CENTRIC DRIVE (LIMIT DIMENSIONS)
 SELECTOR SIZE B/C/D/RC/RD/RDE

SERIAL NUMBER

MATERIAL NUMBER 893896DE
 SHEET 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF A PATENT, UTILITY MODEL OR DESIGN.

DFTR.	DATE	NAME	DOCUMENT NO.
CHKD.	11.07.2018	BUTERUS	SED 1661250 001 03
STAND.	16.07.2018	WILHELM	CHANGE NO.
	16.07.2018	PRODASTSCHUK	1086956
			SCALE
			1:2,5

DIMENSION
 IN mm
 EXCEPT AS
 NOTED

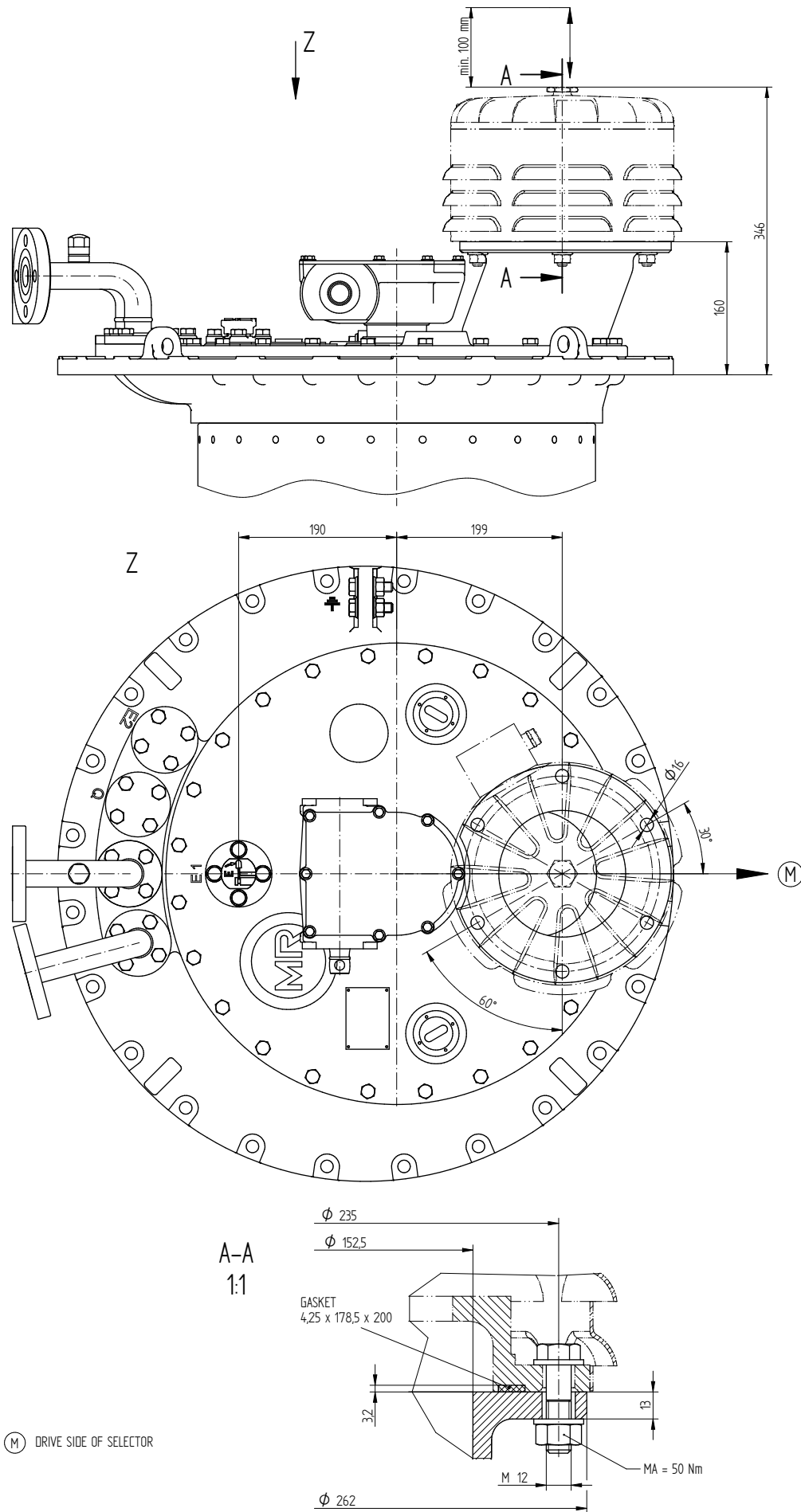


ON-LOAD TAP-CHANGER
 OILTAP® M, MS, R, RM AND VACUTAP® VR®, VM®, VMS®
 WITH MOUNTING FLANGE FOR PRESSURE RELIEF DEVICE

SERIAL NUMBER

MATERIAL NUMBER
 8951689E

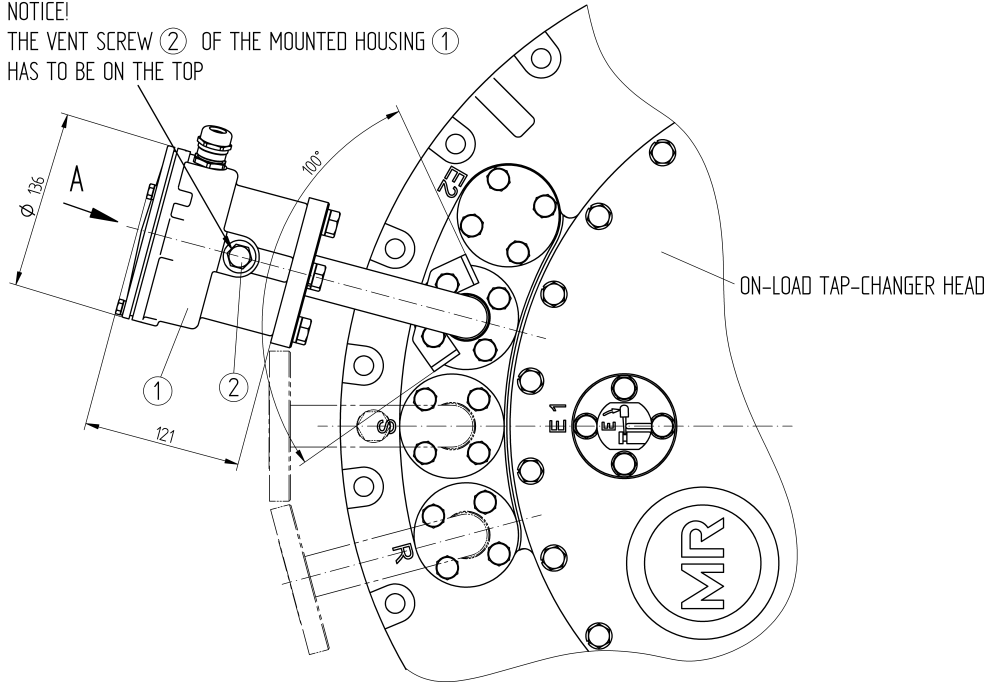
SHEET
 1/1



© MASCHINENFABRIK REINHAUSEN GMBH 2016
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF A PATENT, UTILITY MODEL OR DESIGN.

PIPE CONNECTION WITH TAP-CHANGE SUPERVISORY CONTROL BUSHING WITHOUT OIL FILTER UNIT

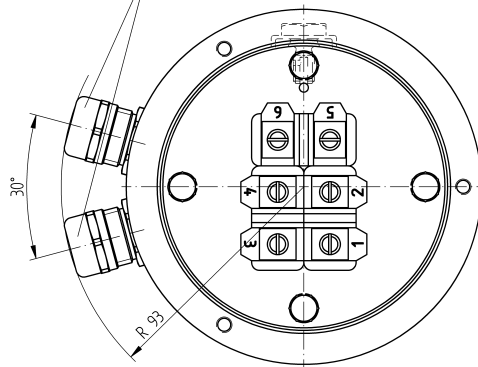
NOTICE!
 THE VENT SCREW ② OF THE MOUNTED HOUSING ① HAS TO BE ON THE TOP



A ↻ 1:1

REPRESENTED WITHOUT COVER

M20x1.5
 CLAMPING RANGE FOR CONNECTION CABLE:
 EXTERNAL DIAMETER: 7 - 13 mm



CONNECTION TERMINALS FOR TAP-CHANGE SUPERVISORY CONTROL

WIRING SEE CONNECTION DIAGRAM OF THE MOTOR-DRIVE UNIT

FUNCTION DIAGRAM FOR TAP-CHANGE SUPERVISORY CONTROL SEE MOTOR-DRIVE CONNECTION DIAGRAM

RATED CONTINUOUS CURRENT: 2A
 RATED VOLTAGE DC/AC (50HZ): 24V ... 250V
 DIELECTRIC STRENGTH: 1150V / 50HZ / 1 MIN.

DIELECTRIC TEST OF ALL VOLTAGE CARRYING TERMINALS TO GROUND:
 2000V AC , 50HZ , TEST-DURATION 1 MIN.

DATE	NAME	DOCUMENT NO.
03.11.2016	RAEDLINGER	SED 2425358 001 02
04.11.2016	NERRETER	CHANGE NO.
04.11.2016	PRODASTSCHUK	1078202
DFTR.	SCALE	1:2
CHKD.		
STAND.		

DIMENSION
 IN mm
 EXCEPT AS
 NOTED



ON-LOAD TAP-CHANGER VACUTAP® VM, VR
 PIPE CONNECTION WITH TAP-CHANGE SUPERVISORY CONTROL

SERIAL NUMBER

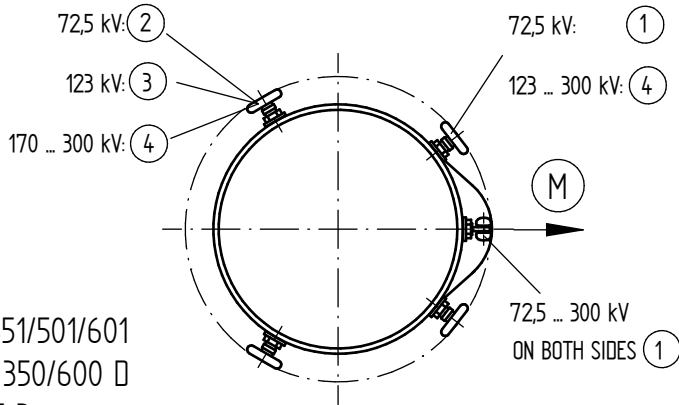
MATERIAL NUMBER
 7661612E

SHEET
 1/1

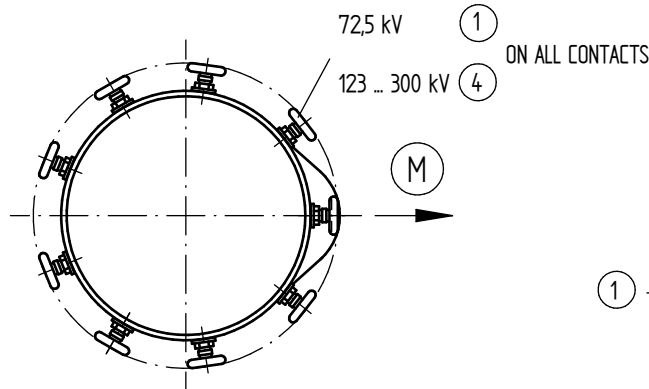
4.4 油室

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

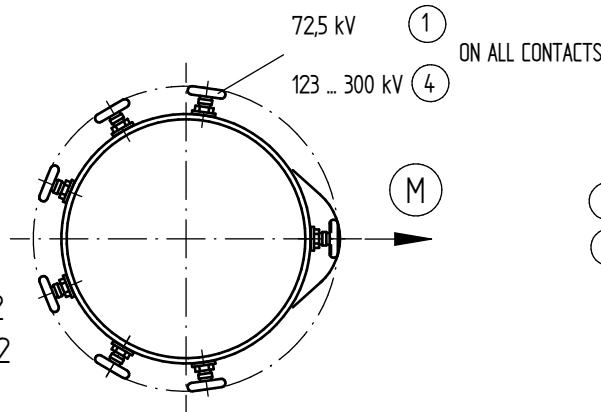
MI 351/501/601
 MIII 350/600 D
 POLE B
 VMI 351/501/651



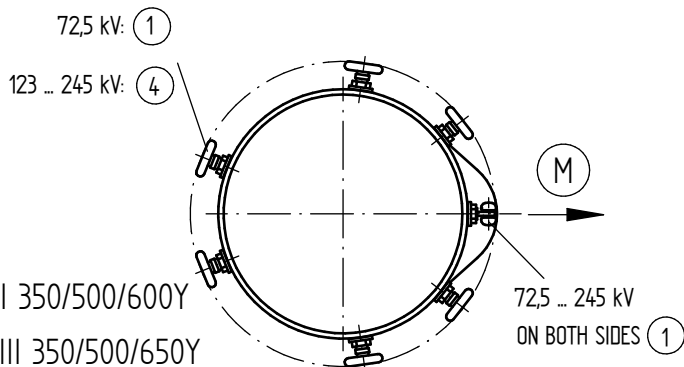
MI 603/803
 MI 1203/1503
 VMI 653/803
 VMI 1203/1503



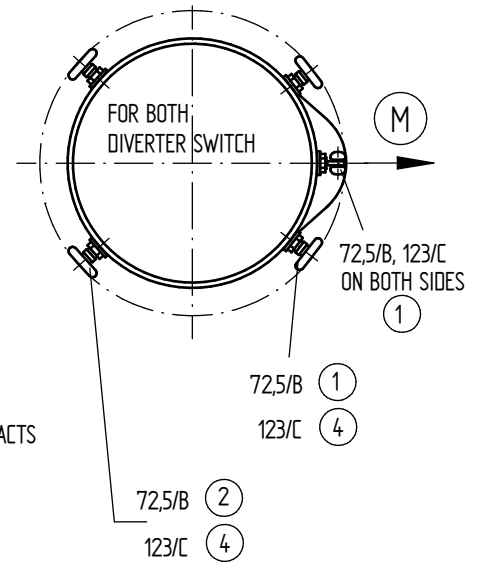
MI 502/602/802
 MII 352/502/602
 VMI 502/652/802
 VMII 352/502/652



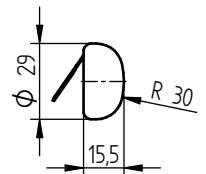
MIII 350/500/600Y
 VMIII 350/500/650Y
 VMSIII 400/650Y



MIII 350/500 D POLE A
 VMIII 350/500 D POLE A

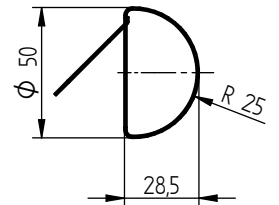


① - 056919 (UNCOATED)

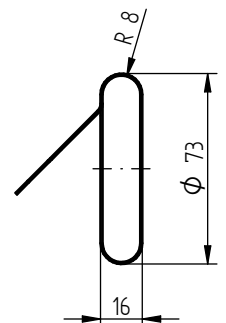
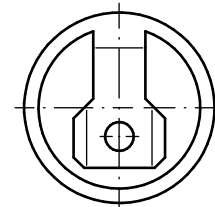


② - 016768 (UNCOATED)

③ - 067620 (COATED)



④ - 066845 (COATED)



WITH THE CURRENT TAKE-OFF RINGS SCREENING CAPS ① ARE USED TO ATTACH THE LOWER SCREENING RING (170 ... 300 kV)

DATE	DOCUMENT NO.
13.07.2018	SED 1668294_001 02
NAME	SCALE
BUTERUS	-
WILHELM	CHANGE NO.
PRODASTSCHUK	1086956
DATE	DOCUMENT NO.
16.07.2018	SED 1668294_001 02
NAME	SCALE
BUTERUS	-
WILHELM	CHANGE NO.
PRODASTSCHUK	1086956

DIMENSION
 IN mm
 EXCEPT AS
 NOTED



ON-LOAD TAP-CHANGER OILTAP® M / VACUTAP® VM®, VMS®
 SCREENINGS ON OIL COMPARTMENT TERMINALS

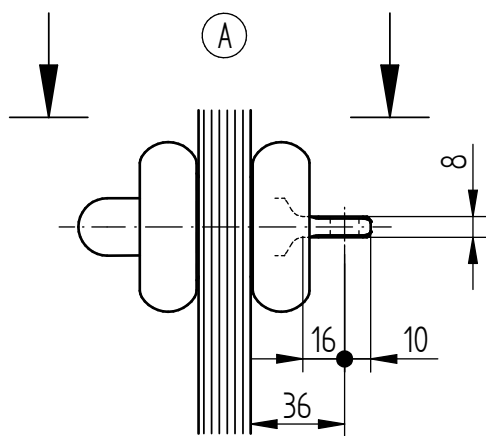
SERIAL NUMBER

MATERIAL NUMBER
 7303362E

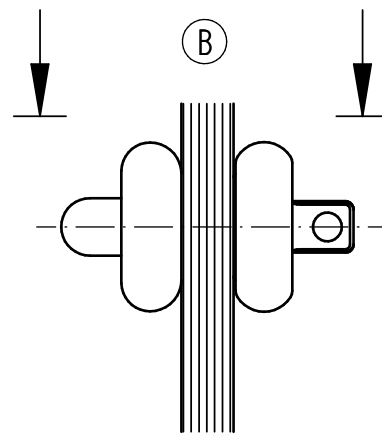
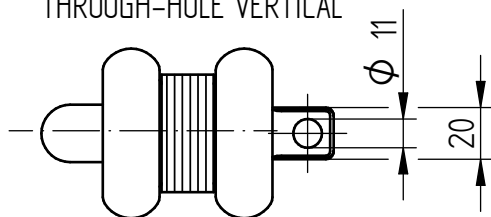
SHEET
 1 / 1

4.5 分接选择器

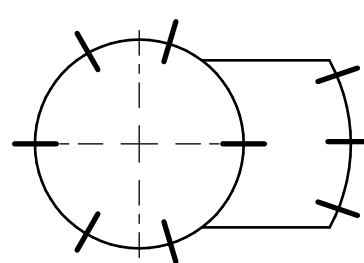
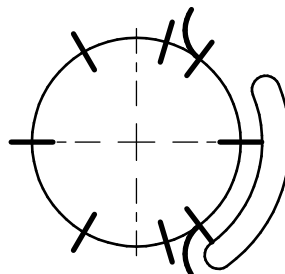
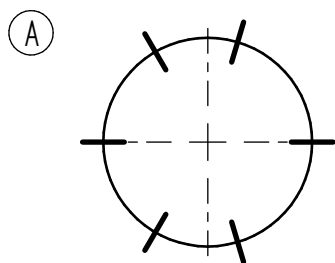
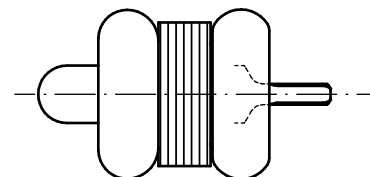
© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



THROUGH-HOLE VERTICAL



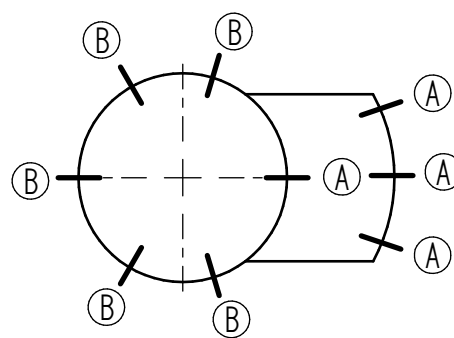
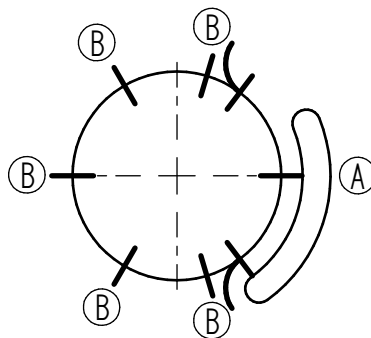
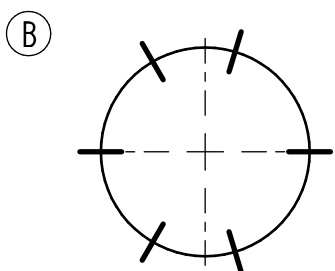
THROUGH-HOLE HORIZONTAL



- M III 350 / 500 / 600Y - 0
- VM III 350 / 500 / 650Y - 0
- VMS III 400 / 650Y - C - 0
- M II 352 / 502 / 602 - 0
- VM II 352 / 502 / 652 - 0
- M I 351 / 501 / 601 - 0
- VM I 351 / 501 / 651 - 0

- M III 350 / 500 / 600Y - W
- VM III 350 / 500 / 650Y - W
- VMS III 400 / 650Y - C - W
- M II 352 / 502 / 602 - W
- VM II 352 / 502 / 652 - W
- M I 351 / 501 / 601 - W
- VM I 351 / 501 / 651 - W

- M III 350 / 500 / 600Y - G
- VM III 350 / 500 / 650Y - G
- VMS III 400 / 650Y - C - G
- M II 352 / 502 / 602 - G
- VM II 352 / 502 / 652 - G
- M I 351 / 501 / 601 - G
- VM I 351 / 501 / 651 - G



- M I 802 - 0
- VM I 802 - 0
- VM I 1002 - 0
- M I 1203 / 1503 - 0
- VM I 1203 / 1503 - 0

- M I 802 - W
- VM I 802 - W
- VM I 1002 - W
- M I 1203 / 1503 - W
- VM I 1203 / 1503 - W

- M I 802 - G
- VM I 802 - G
- VM I 1002 - G
- M I 1203 / 1503 - G
- VM I 1203 / 1503 - G

(A) + (B)

DATE	NAME	DOCUMENT NO.
13.07.2018	BUJERUS	SED 1706800 000 03
16.07.2018	WILHELM	CHANGE NO.
16.07.2018	PRODASTSCHUK	1086956
SCALE		1:2

DIMENSION
IN mm
EXCEPT AS
NOTED



OLTC OILTAP® M / VACUTAP® VM®, VMS®-C
 INSTALLATION POSITION OF SELECTOR CONNECTION CONTACTS
 M-SELECTOR SIZE B/C/D/E

SERIAL NUMBER

MATERIAL NUMBER
890477BE

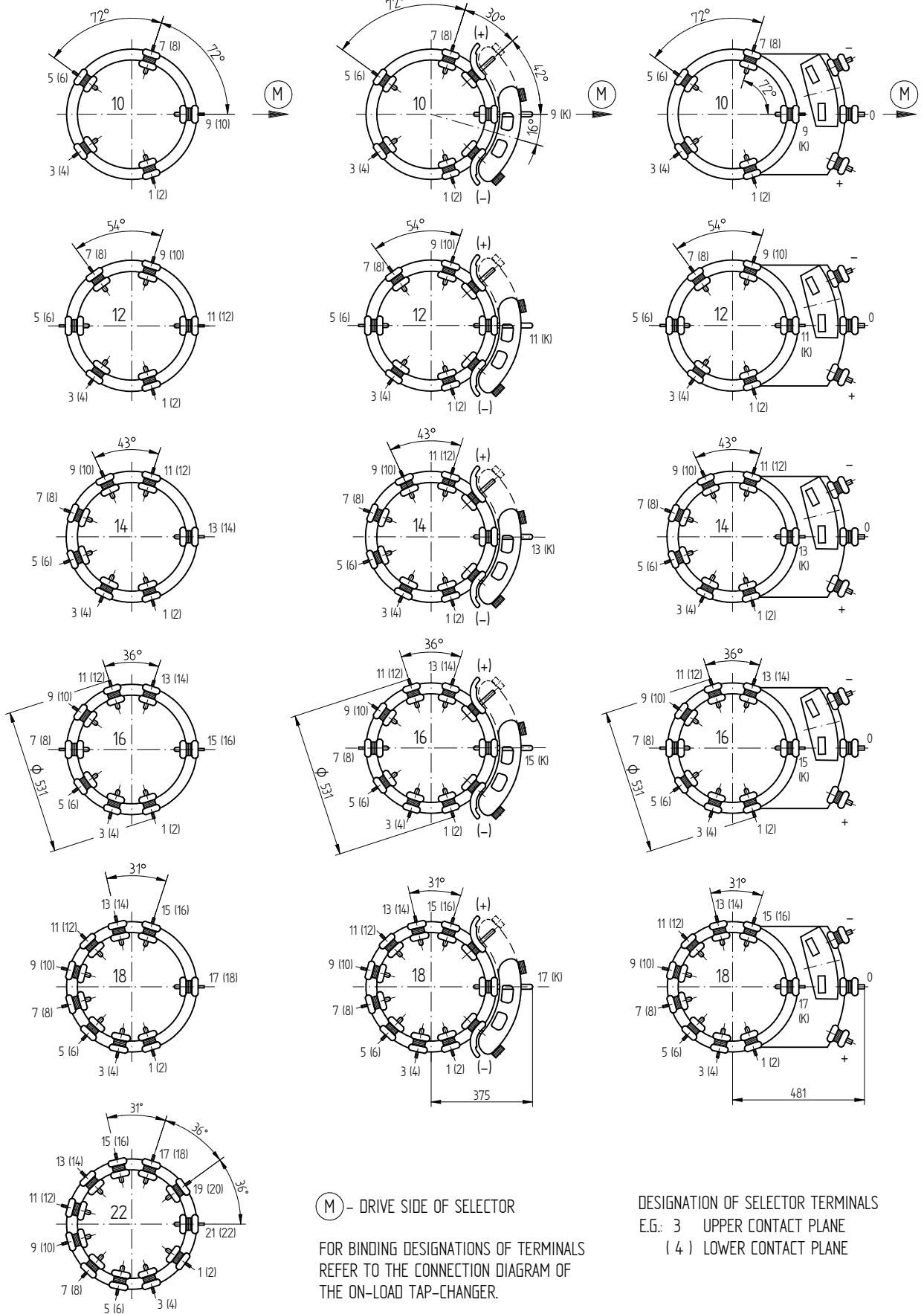
SHEET
1 / 1

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

SELECTOR WITHOUT CHANGE-OVER SELECTOR:

SELECTOR WITH REVERSING CHANGE-OVER SELECTOR:
 REPRESENTATION APPLIES TO TYPES M/ VM®/ VMS®-C/ VRC/ VRE III Y AND M/ VM®/ VRC/ VRE II.
 THE UPPER AND LOWER SELECTOR PLANE ARE INTERCHANGED IN TYPES M/ VM®/ VRC/ VRE I AND VRC I HD/ VRE I HD.

SELECTOR WITH COARSE CHANGE-OVER SELECTOR:



(M) - DRIVE SIDE OF SELECTOR

FOR BINDING DESIGNATIONS OF TERMINALS REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

DESIGNATION OF SELECTOR TERMINALS
 E.G.: 3 UPPER CONTACT PLANE
 (4) LOWER CONTACT PLANE

DATE	13.07.2018	DOCUMENT NO.	1050444 001 05
DFTR.	BUTERUS	NAME	SED
CHKD.	16.07.2018	WILHELM	SCALE
STAND.	16.07.2018	PRODASTSCHUK	1:10
		CHANGE NO.	1086956

DIMENSION
 IN mm
 EXCEPT AS
 NOTED



OLTC OILTAP® M / VACUTAP® VM®, VMS®-C, VRC, VRE
 ARRANGEMENT OF CONTACTS AT SELECTOR
 M-SELECTOR SIZE B/C/D/DE - SELECTOR PITCH 10 ... 22

SERIAL NUMBER

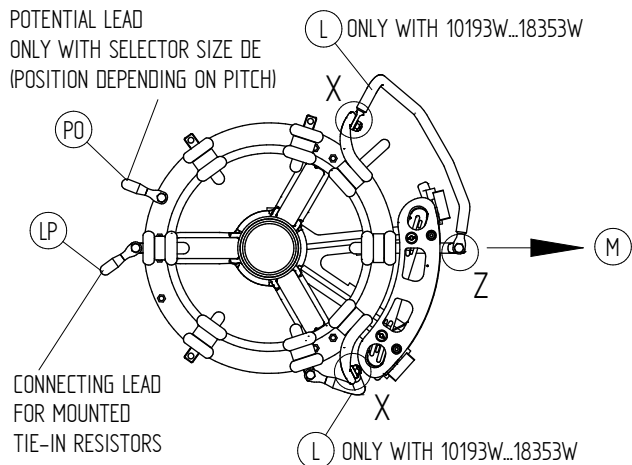
MATERIAL NUMBER
 8980136E

SHEET
 1/1

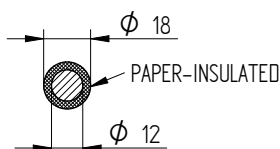
© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF A PATENT, UTILITY MODEL OR DESIGN.

REVERSING CHANGE-OVER SELECTOR

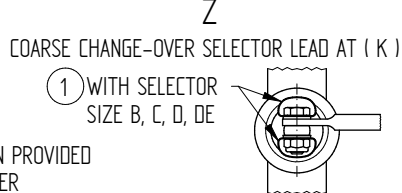
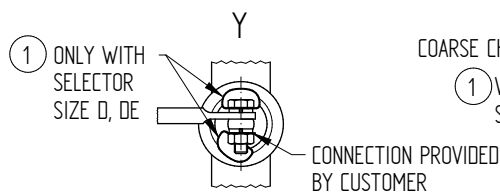
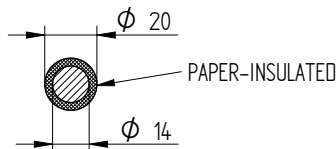
REPRESENTATION OF SELECTOR, 12-PITCH



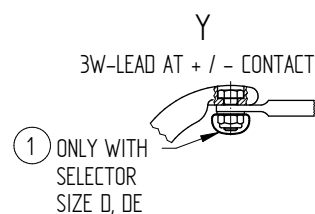
LEAD PROFILE (LP)



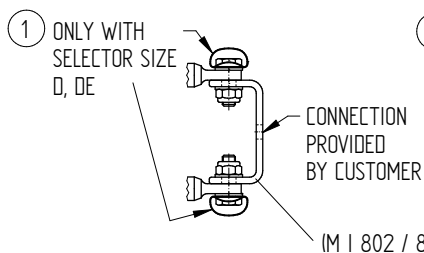
LEAD PROFILE (PO), (L) ONLY WITH SELECTOR SIZE DE



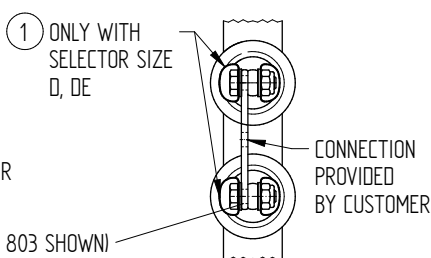
LEAD PROFILE (L) WITH SELECTOR SIZE B, C, D



PARALLEL BRIDGES ARRANGEMENT OF CONTACTS A



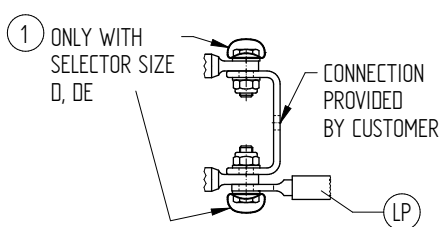
PARALLEL BRIDGES ARRANGEMENT OF CONTACTS B



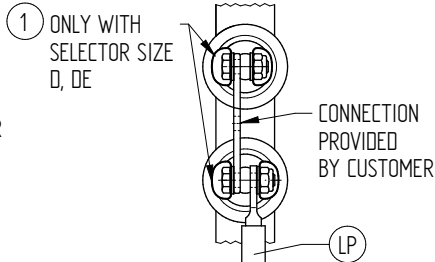
PARALLEL BRIDGES AT + / - CONTACT (WITH REVERSING CHANGE-OVER SELECTOR)



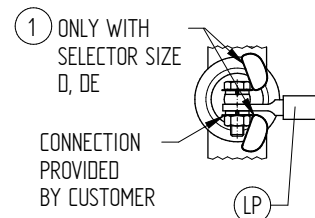
PARALLEL BRIDGES ARRANGEMENT OF CONTACTS A WITH (LP)



PARALLEL BRIDGES ARRANGEMENT OF CONTACTS B WITH (LP)



CONNECTION CONTACT (STANDARD) WITH (LP)



(M) DRIVE SIDE OF SELECTOR
(LP) (PO) (L) CONNECTING LEADS

NOTICE: WITH SELECTOR SIZE D AND DE SCREENING CAPS 1 ARE UNMOUNTED DELIVERED TO ATTACH THE LEADS, PROVIDED BY CUSTOMER, TO THE TAPINGS OF THE TAP WINDING.

DOCUMENT NO.	DATE	NAME	CHANGE NO.	SCALE
1668279 001 03	13.07.2018	BUTERUS		
1086956	16.07.2018	WILHELM		
	16.07.2018	PRODASTSCHUK		

DIMENSION IN mm EXCEPT AS NOTED



OLTC OILTAP® M, RM / VACUTAP® VRC/VRE, VM®, VMS®-C
SCREENINGS AT TAP SELECTOR AND CHANGE-OVER SELECTOR
M-SELECTOR SIZE B/C/D/DE

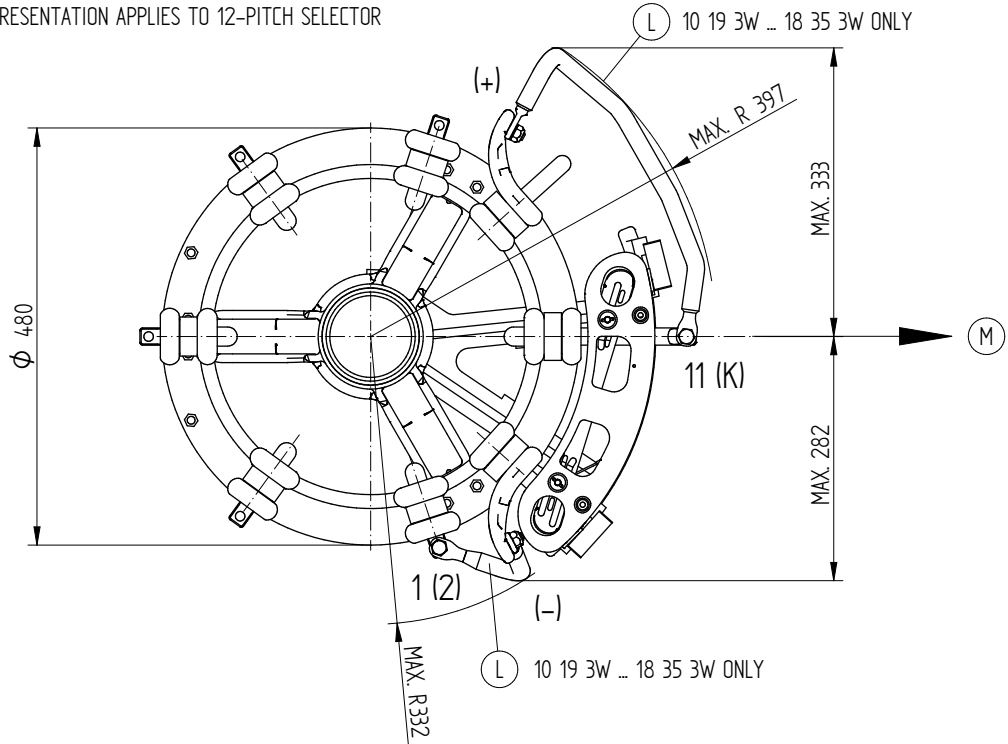
SERIAL NUMBER

MATERIAL NUMBER 7303353E SHEET 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

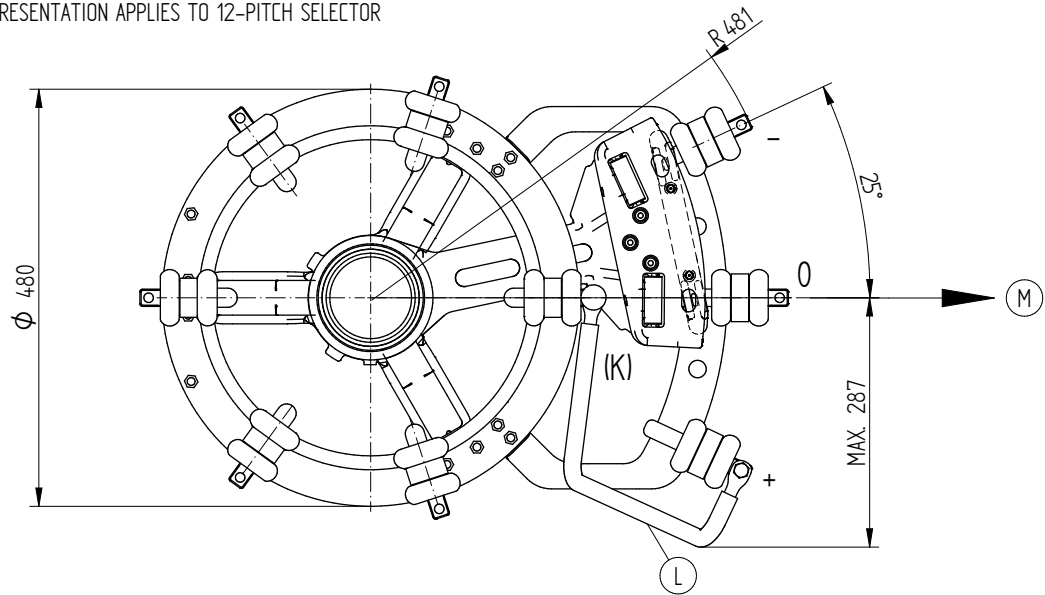
REVERSING CHANGE-OVER SELECTOR

E - F (TYPE M / VM / VMS-C) AND D - D (TYPE VRC / VRE / VRC I HD / VRE I HD / VRS / VRM)
 REPRESENTATION APPLIES TO 12-PITCH SELECTOR



COARSE CHANGE-OVER SELECTOR

G - H (TYPE M / VM / VMS-C) AND E - E (TYPE VRC / VRE / VRC I HD / VRE I HD / VRS / VRM)
 REPRESENTATION APPLIES TO 12-PITCH SELECTOR

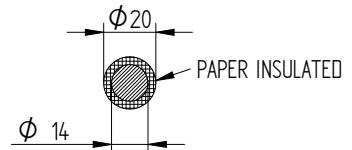
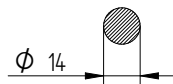


(L) SELECTOR SIZE B, C, D

(L) SELECTOR SIZE DE

(M) DRIVE SIDE OF SELECTOR

(L) CONNECTING LEADS



THE DETAILED CONNECTION DIAGRAM IS BINDING FOR THE DESIGNATION OF THE CONNECTION CONTACTS

DATE	NAME	DOCUMENT NO.
DFTR. 13.07.2018	BUTERUS	SED 1474939 000 06
CHKD. 16.07.2018	WILHELM	CHANGE NO.
STAND. 16.07.2018	PRODASTSCHUK	1086956
		SCALE 1:3

DIMENSION
IN mm
EXCEPT AS
NOTED



OLT C OILTAP® M / VACUTAP® VM®, VMS®-C, VRC, VRE, VRS, VRM
 CONNECTING LEAD 3W AND 1G / 3G
 M-SELECTOR SIZE B/C/D/DE

SERIAL NUMBER

MATERIAL NUMBER
7235904E

SHEET
1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS
 PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

DATE	NAME	DOCUMENT NO.
DFTR. 19.08.2015	RAEDLINGER	SED 26/13347_001 01
CHKD. 21.08.2015	TKBIRKMANN	CHANGE NO.
STAND. 24.08.2015	KLEYN	1066507
		SCALE
		-

DIMENSION
 IN mm
 EXCEPT AS
 NOTED

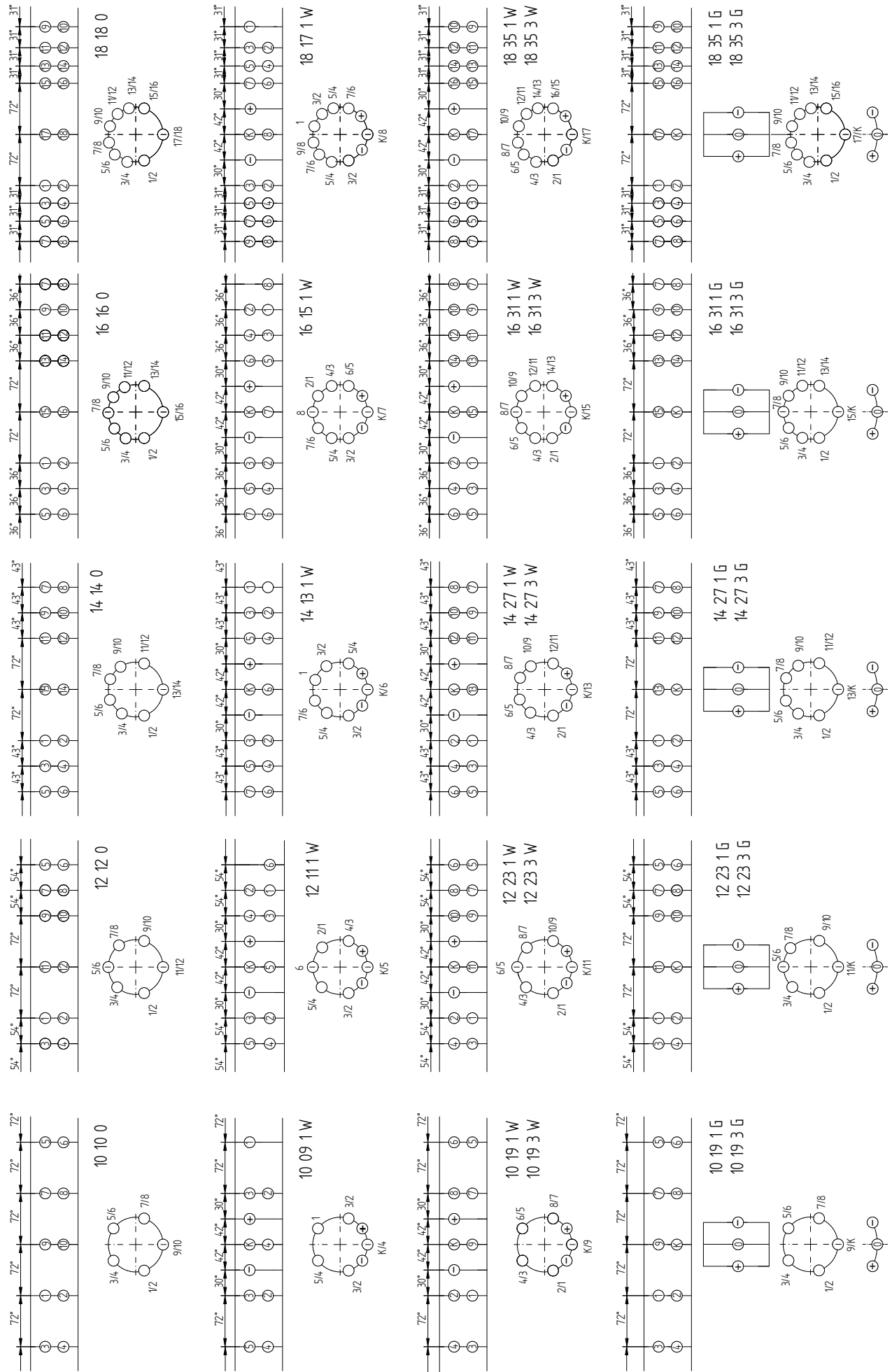


OLTC OILTAP® M | 351/501/601, RM | 601
 OLTC VACUTAP® VM | 351/501/651, VRC | 401/551/701, VRE | 701
 CONTACT ARRANGEMENT ON SELECTOR FOR SELECTOR SIZE B,C,D,DE

SERIAL NUMBER

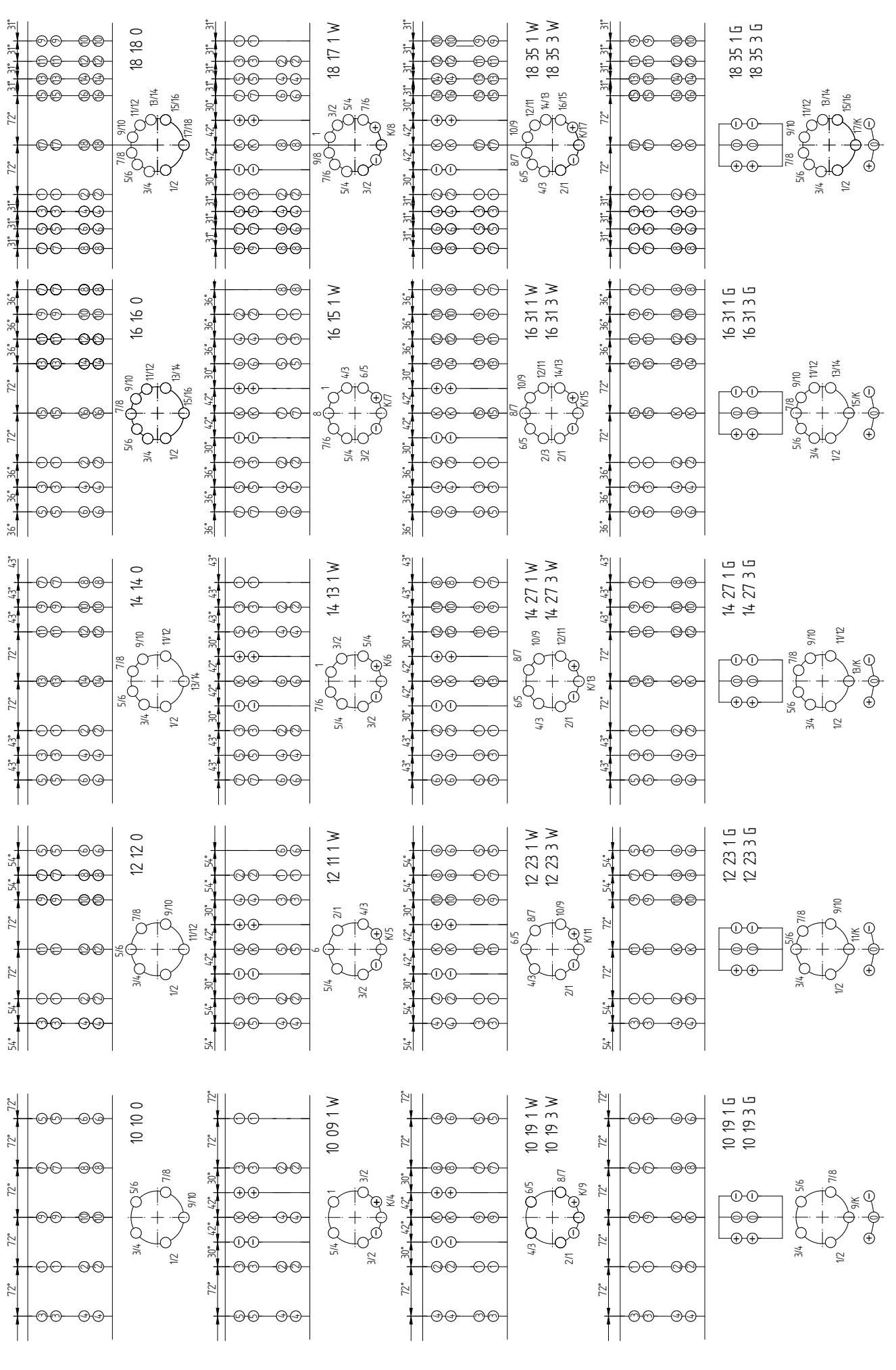
MATERIAL NUMBER
 8911088E

SHEET
 1/1



© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

DATE	NAME	DOCUMENT NO.
19.08.2015	RAEDLINGER	SED 2613129 001 01
21.08.2015	TKBIRKMANN	CHANGE NO.
24.08.2015	KLEYN	1066507
		SCALE
		-



DIMENSION
 IN mm
 EXCEPT AS
 NOTED

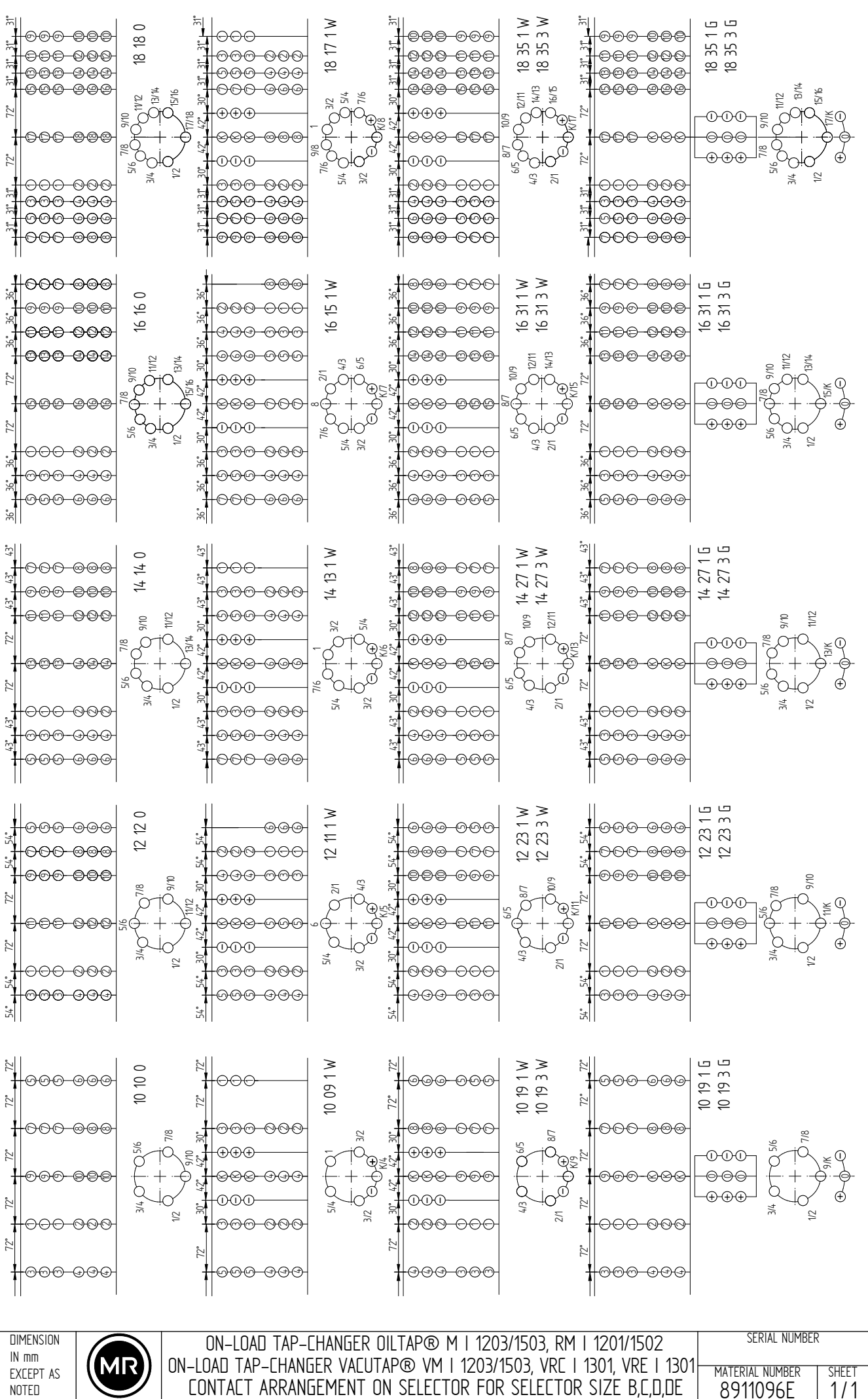


ON-LOAD TAP-CHANGER OILTAP® M | 802
 ON-LOAD TAP-CHANGER VACUTAP® VM | 802/1002, VRC | 1001, VRE | 1001
 CONTACT ARRANGEMENT ON SELECTOR FOR SELECTOR SIZE B,C,D,DE

SERIAL NUMBER	
MATERIAL NUMBER	SHEET
8911105E	1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2015
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

DFTR.	19.08.2015	NAME	DOCUMENT NO.
CHKD.	21.08.2015	RAEDLINGER	SED 26/15953 001 01
STAND.	24.08.2015	TKBIRKMANN	CHANGE NO.
		KLEYN	1066507
			SCALE
			-



DIMENSION
 IN mm
 EXCEPT AS
 NOTED



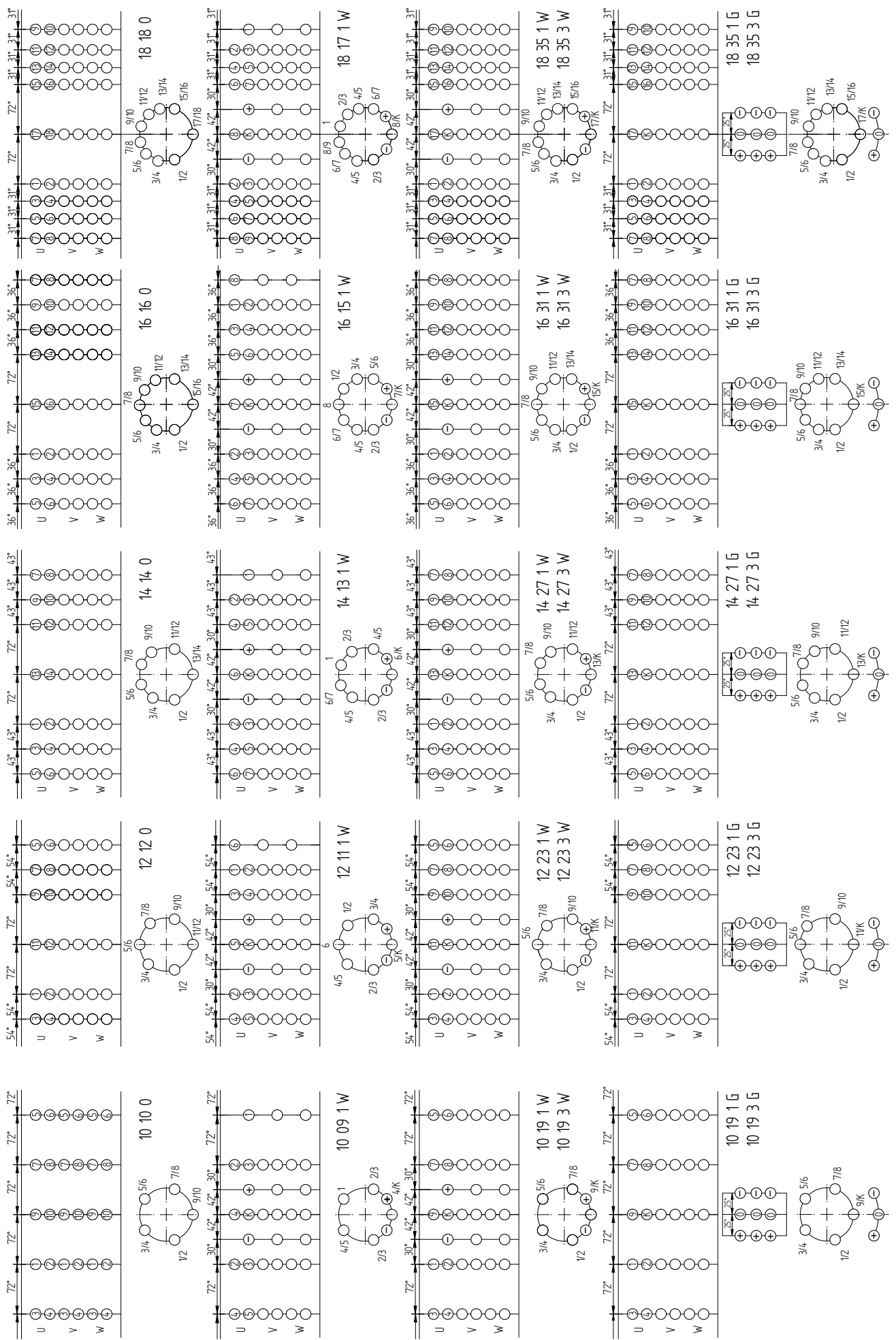
ON-LOAD TAP-CHANGER OILTAP® M | 1203/1503, RM | 1201/1502
 ON-LOAD TAP-CHANGER VACUTAP® VM | 1203/1503, VRC | 1301, VRE | 1301
 CONTACT ARRANGEMENT ON SELECTOR FOR SELECTOR SIZE B,C,D,DE

SERIAL NUMBER	
MATERIAL NUMBER	SHEET
8911096E	1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2018

THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

DATE	NAME	DOCUMENT NO.
DFTR. 13.07.2018	BUTERUS	SED 261976 001 02
CHKD. 16.07.2018	WILHELM	CHANGE NO.
STANDJ. 16.07.2018	PRODASTSCHUK	1086956
		SCALE
		-



DIMENSION
IN mm
EXCEPT AS
NOTED



OLTC VACUTAP® VM® III 350/500/650, VMS® III 400/650 - C
VRC III 400/550/700, VRE III 700 / OILTAP® M III 350/500/600, RM III 600
CONTACT ARRANGEMENT M-SELECTOR SIZE B/C/D/DE

SERIAL NUMBER	
MATERIAL NUMBER	SHEET
8911076E	1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF A PATENT, UTILITY MODEL OR DESIGN.

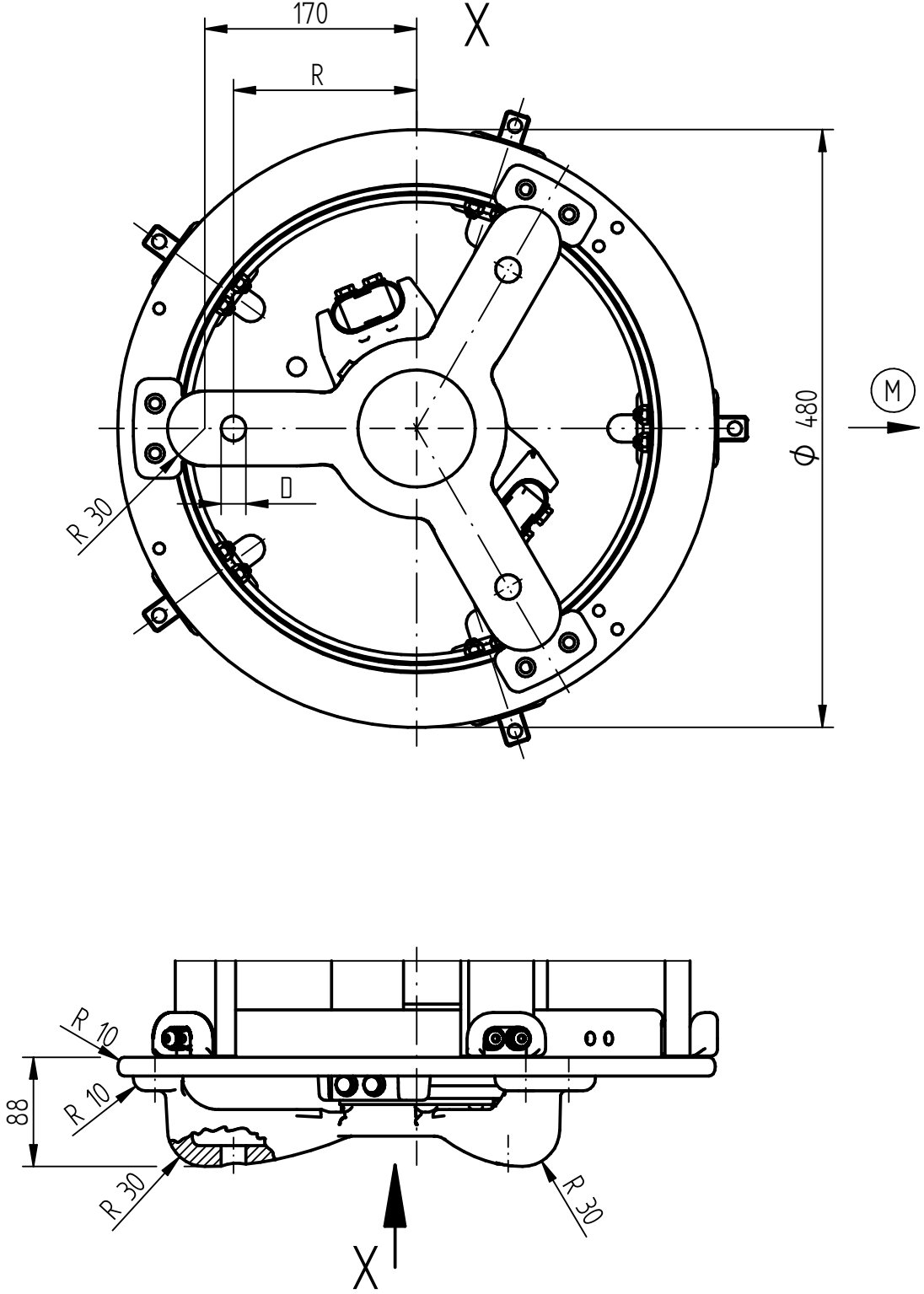
DATE	NAME	DOCUMENT NO.
13.07.2018	BUTERUS	SED 1708618 000 03
16.07.2018	WILHELM	CHANGE NO. SCALE
16.07.2018	PRODASTSCHUK	1086956 15

DIMENSION
 IN mm
 EXCEPT AS
 NOTED



ON-LOAD TAP-CHANGER OILTAP® M / VACUTAP® VM®, VMS®-C
 SELECTOR BASE WITH HOLE Ø20 AND Ø13
 M-SELECTOR SIZE B/C/D/DE

SERIAL NUMBER	
MATERIAL NUMBER 7256494E	SHEET 1 / 1



(M) DRIVE SIDE OF SELECTOR

R	D	SELECTOR BASE
147	20	097251
160	13	097252

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

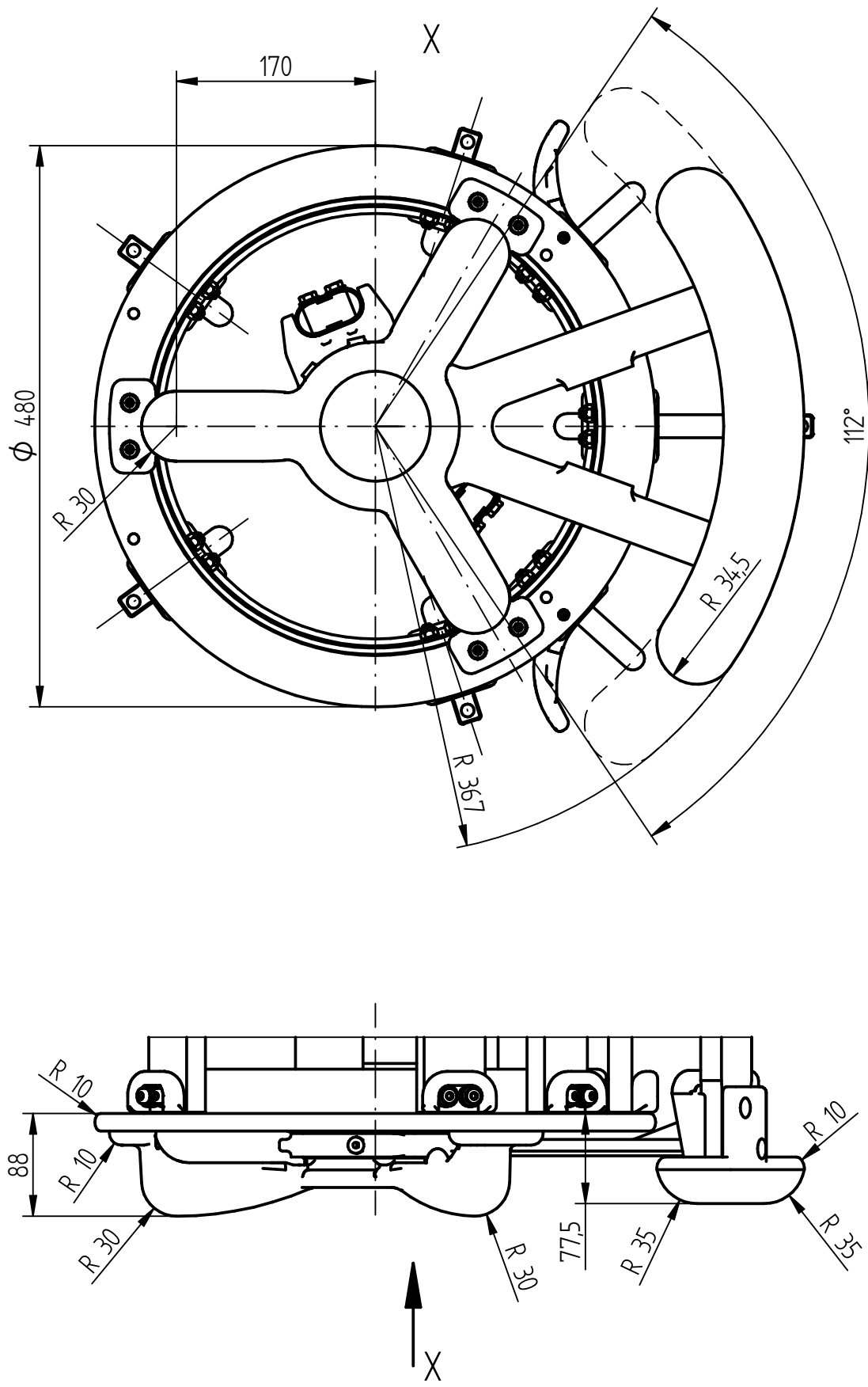
DATE	NAME	DOCUMENT NO.
DFTR. 13.07.2018	BUTERUS	SED 1708547 000 03
CHKD. 16.07.2018	WILHELM	CHANGE NO. SCALE
STAND. 16.07.2018	PRODASTSCHUK	1086956 15

DIMENSION
 IN mm
 EXCEPT AS
 NOTED



OLTC OILTAP® M / VACUTAP® VM®, VMS®-C, VRC, VRE
 ADDITIONAL SCREENING ON SELECT OR BASE - REVERSING COS
 M-SELECTOR SIZE B/C/D/DE

SERIAL NUMBER	
MATERIAL NUMBER 8939344E	SHEET 1 / 1



© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

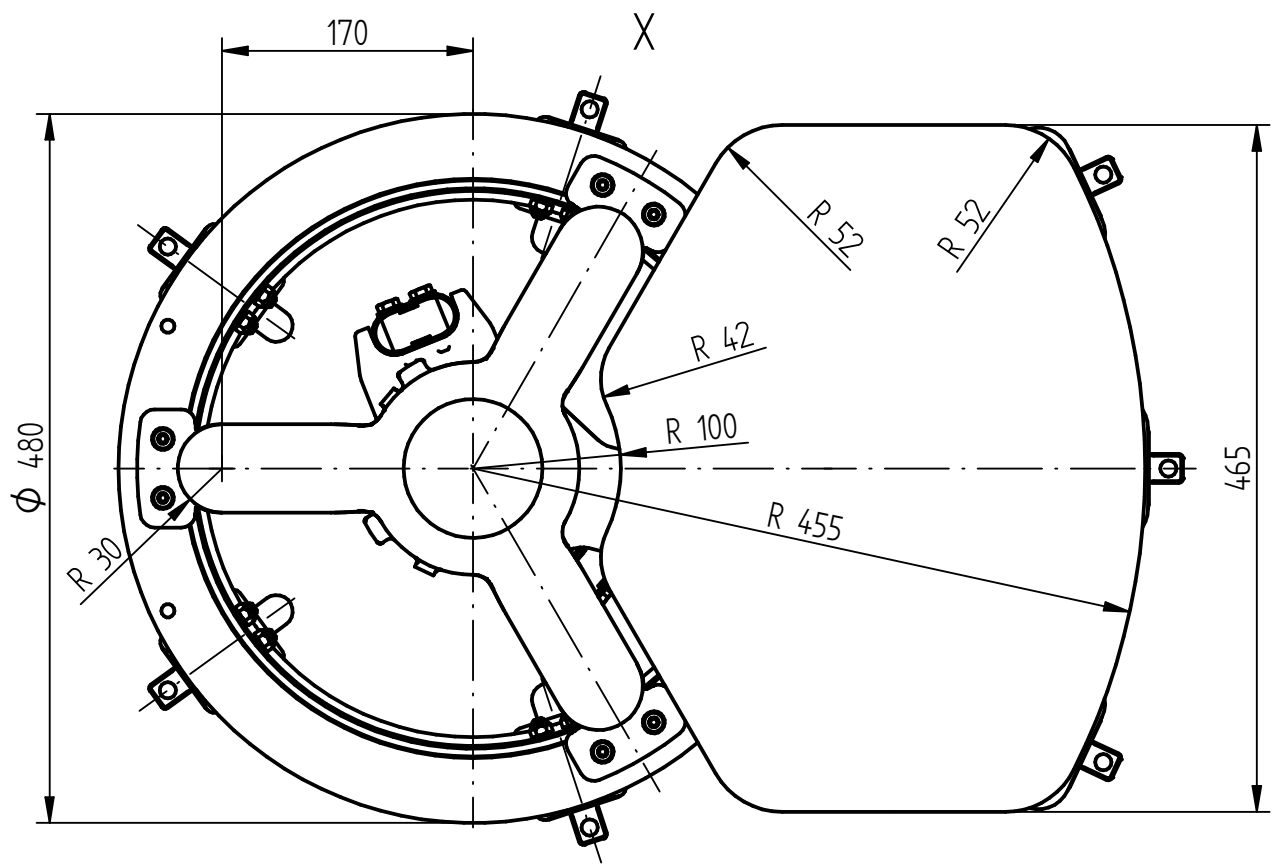
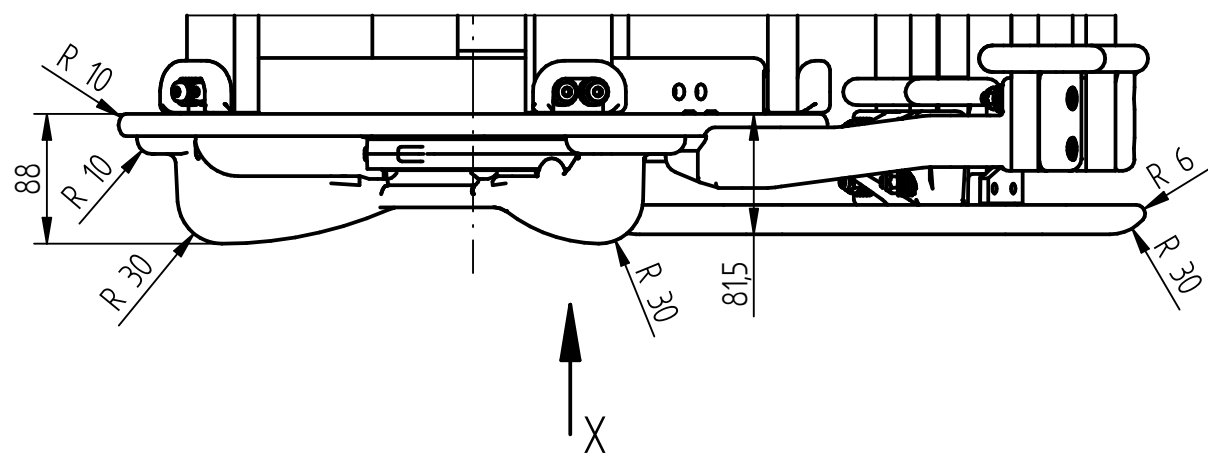
DATE	NAME	DOCUMENT NO.
DFTR. 13.07.2018	BUTERUS	SED 1708571 000 03
CHKD. 16.07.2018	WILHELM	CHANGE NO. SCALE
STAND. 16.07.2018	PRODASTSCHUK	1086956 15

DIMENSION
 IN mm
 EXCEPT AS
 NOTED



OLTC OILTAP® M / VACUTAP® VM®, VMS®-C, VRC, VRE
 ADDITIONAL SCREENING ON SELECTOR BASE - COARSE COS
 M-SELECTOR SIZE B/C/D/DE

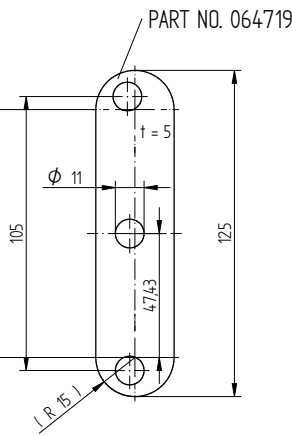
SERIAL NUMBER	
MATERIAL NUMBER 8939354E	SHEET 1 / 1



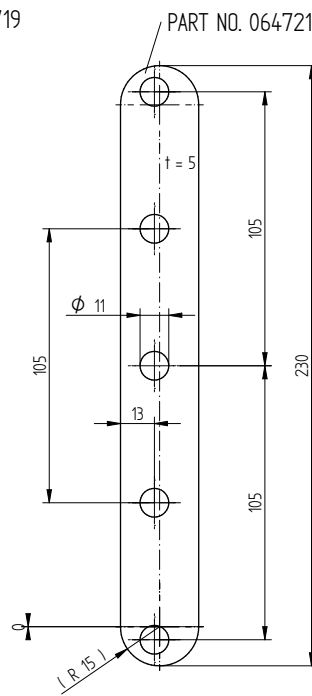
© MASCHINENFABRIK REINHAUSEN GMBH 2016
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

ARRANGEMENT OF CONTACT B

M | 802 / 803
VM | 802 / 1002

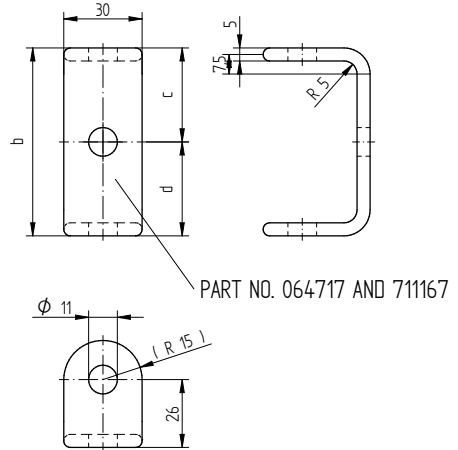


M | 1203 / 1503
VM | 1203 / 1503



ARRANGEMENT OF CONTACT A

M | 802 / 803 / 1203 / 1503
VM | 802 / 1002 / 1203 / 1503

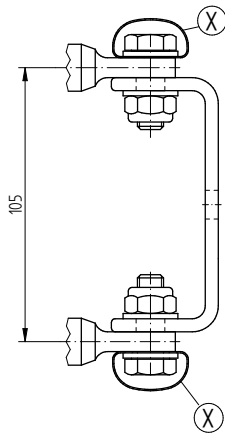


ARRANGEMENT OF CONTACT (see 890477:.)	PART NO.	DIMENSION b	DIMENSION c	DIMENSION d
A WITHOUT CONNECTING LEAD	064717	97	48,5	48,5
A WITH CONNECTING LEAD	711167	91	48,5	42,5

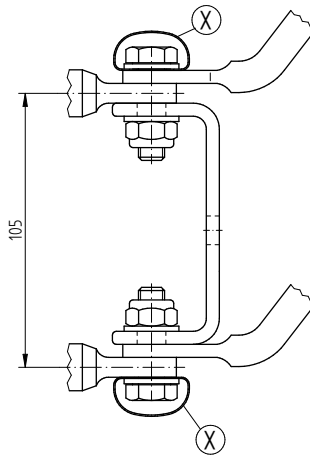
INSTALLATION OF PARALLEL BRIDGES FOR ARRANGEMENT OF CONTACT A WITHOUT AND WITH CONNECTING LEAD FOR 3W CONNECTION

M | 802 / 803
VM | 802 / 1002

WITHOUT
CONNECTING LEAD

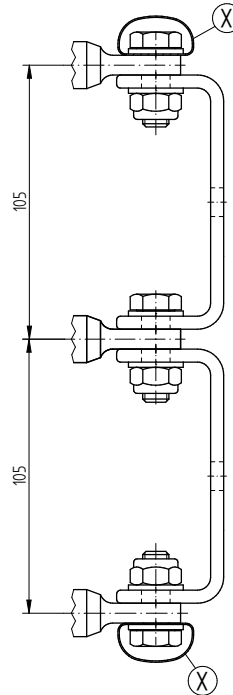


WITH CONNECTING LEAD

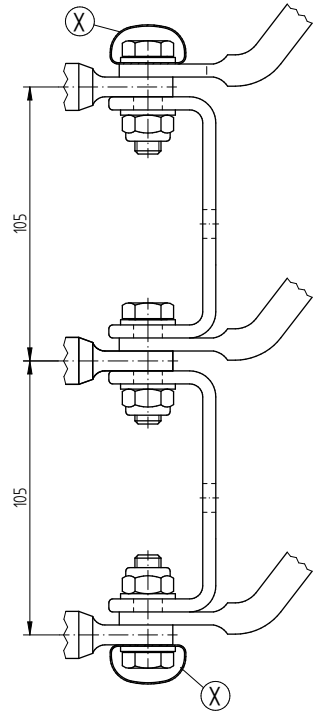


M | 1203 / 1503
VM | 1203 / 1503

WITHOUT
CONNECTING LEAD



WITH CONNECTING LEAD



(X) ONLY FOR SELECTOR SIZE D AND DE

PLEASE NOTE: PARALLEL BRIDGES ARE NOT INCLUDED IN THE STANDARD DELIVERY.

DATE	NAME	DOCUMENT NO.
18.01.2016	RAEDLINGER	SED 1050471 000 05
25.02.2016	TKBIRKMAN	CHANGE NO.
25.02.2016	PRODASTSCHUK	1072100
		SCALE 1:1

DIMENSION
IN mm
EXCEPT AS
NOTED



ON-LOAD TAP-CHANGER OILTAP® M | 802/803/1203/1503 AND
VACUTAP® VM | 802/1002/1203/1503 - SELECTOR SIZE B/C/D/DE
BRIDGES FOR PARALLEL CONNECTION OF SELECTOR CONN. CONT.

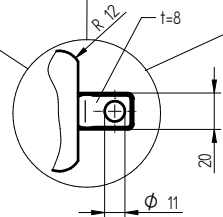
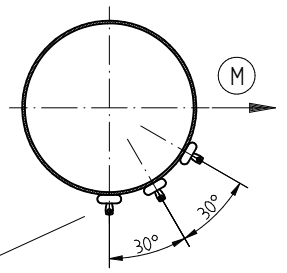
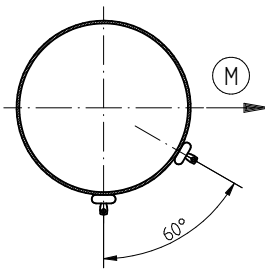
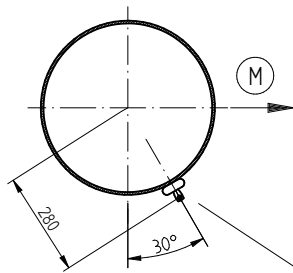
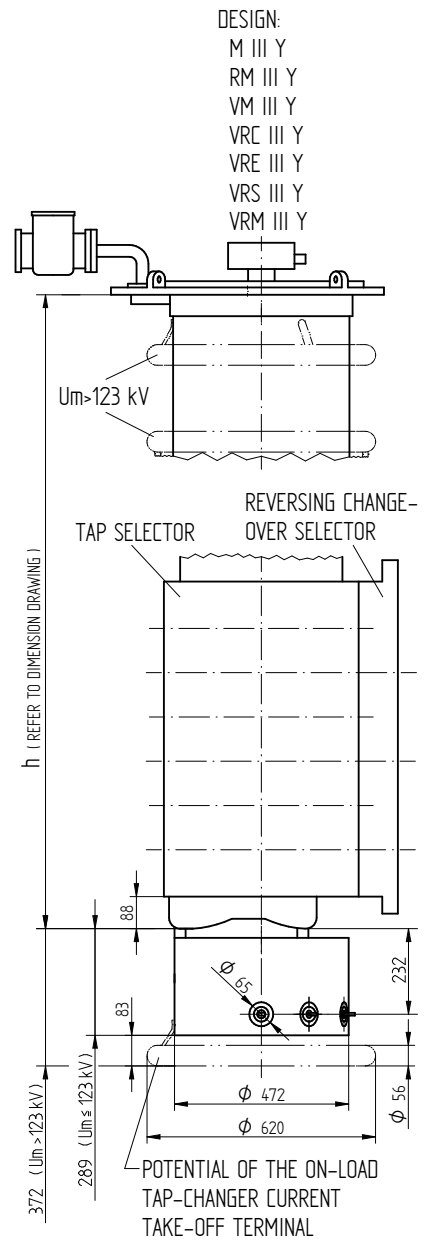
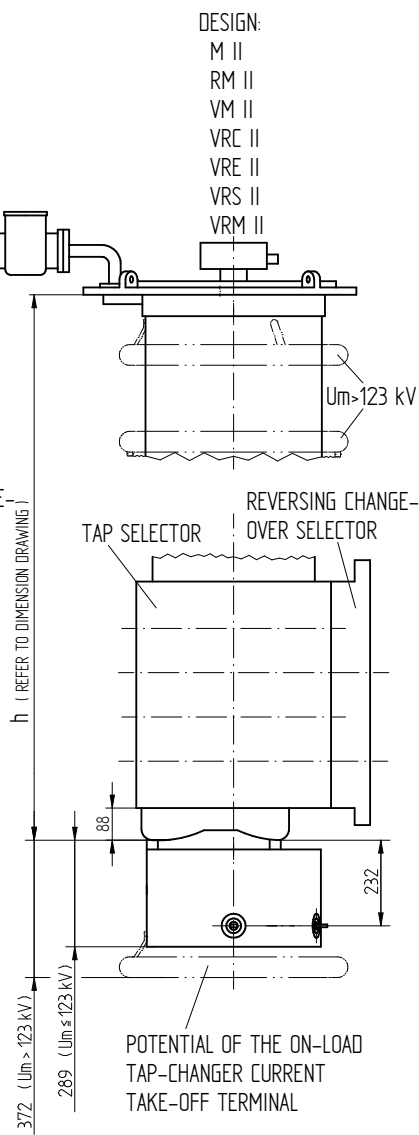
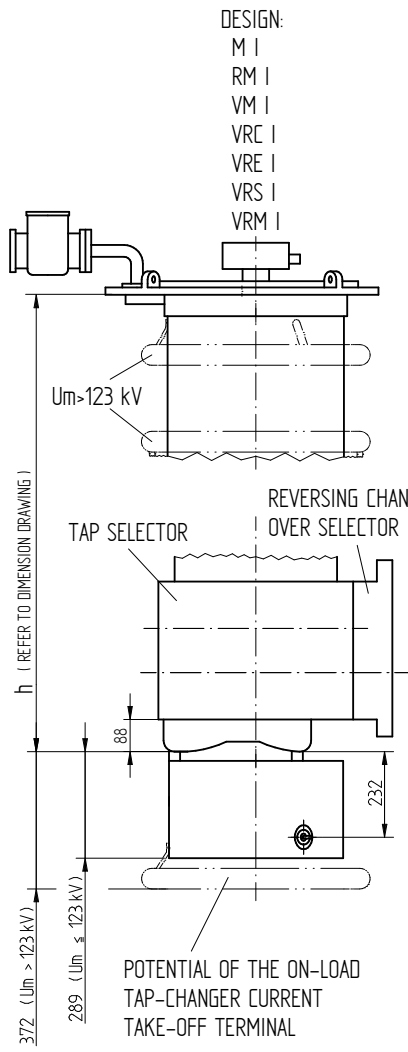
SERIAL NUMBER

MATERIAL NUMBER
8995984E

SHEET
1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2016
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

DATE	18.10.2016	DOCUMENT NO.	SED 1050468 001 07
DFTR.	19.10.2016	NAME	CTETPRAKTIK2
CHKD.	20.10.2016	CHANGE NO.	HILTNER 1077668
STAND.		SCALE	1:10
		PRODASTSCHUK	



CONNECTION FOR EXTERNAL TIE-IN RESISTOR

(M) DRIVE SIDE OF SELECTOR

CONNECTING FROM TIE-IN SWITCH TO ON-LOAD TAP-CHANGER CURRENT TAKE-OFF TERMINAL IS CARRIED OUT BY MR THE DETAILED CONNECTION DIAGRAM IS BINDING FOR THE DESIGNATION OF THE CONNECTION CONTACTS AND PHASES

NOT APPLICABLE TO VM I 301, VM II 302 AND VM III 300 Y

DIMENSION
 IN mm
 EXCEPT AS
 NOTED



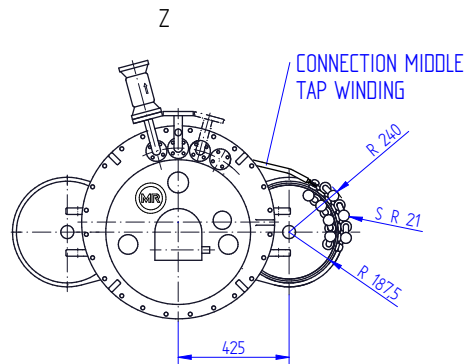
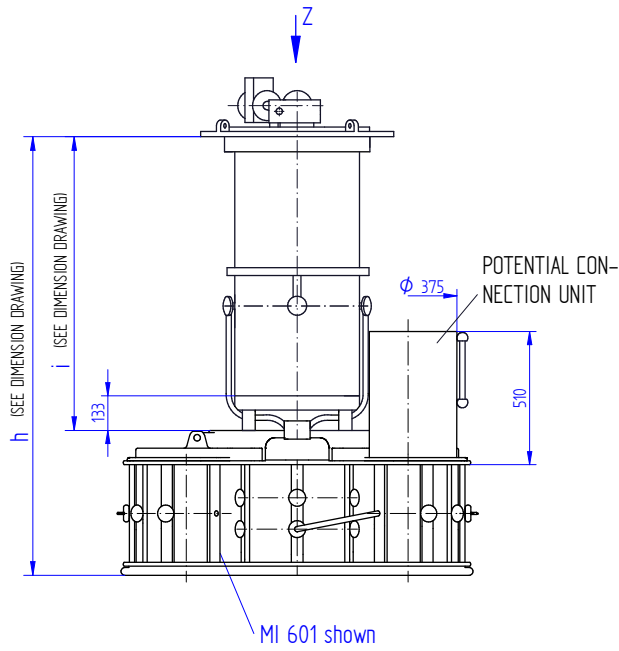
ON-LOAD TAP-CHANGER OILTAP®M, RM / VACUTAP® VM, VR
 M/RM/VM/VRC/VRE/VRS/VRM - REVERSING CHANGE-OVER SEL. - SIZE B/C/D/DE
 POTENTIAL CONNECTION UNIT WITH TIE-IN SWITCH WITHOUT TIE-IN RESISTORS

SERIAL NUMBER

MATERIAL NUMBER
 8988046E

SHEET
 1/1

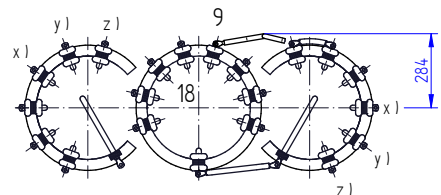
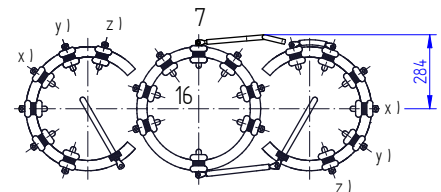
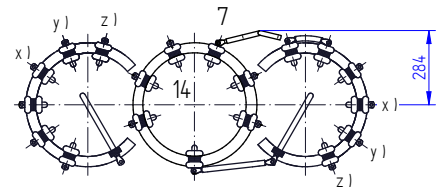
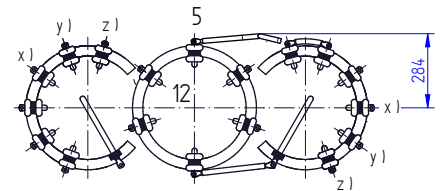
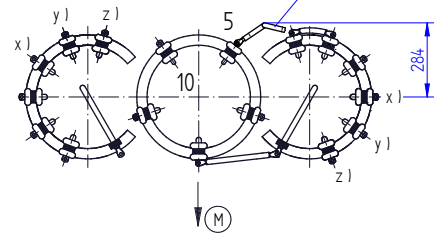
© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF A PATENT, UTILITY MODEL OR DESIGN.



ARRANGEMENT OF SELECTOR CONTACTS,
 2-5 COARSE TAP CONNECTIONS
 (PLAN VIEW)

- x) FOR 3 COARSE TAP CONNECTIONS
- x) AND y) FOR 4 COARSE TAP CONNECTIONS
- x), y) AND z) FOR 5 COARSE TAP CONNECTIONS

CONNECTION MIDDLE TAP WINDING



FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

(M) DRIVE SIDE OF SELECTOR

DOCUMENT NO.	19.04.2018	NAME	RAEDLINGER
DFTR.	25.04.2018	CHANGE NO.	HAUER
CHKD.	25.04.2018	SCALE	1:10
STAND.			PRODASTSCHUK

DIMENSION
 IN mm
 EXCEPT AS
 NOTED



ON-LOAD TAP-CHANGER OILTAP® M I AND VACUTAP® VM I, VRC I, VRS I, VRM I
 WITH MULTIPLE COARSE CHANGE-OVER SELECTOR
 MOUNTING OF TIE-IN RESISTORS - SELECTOR SIZE B/C/D

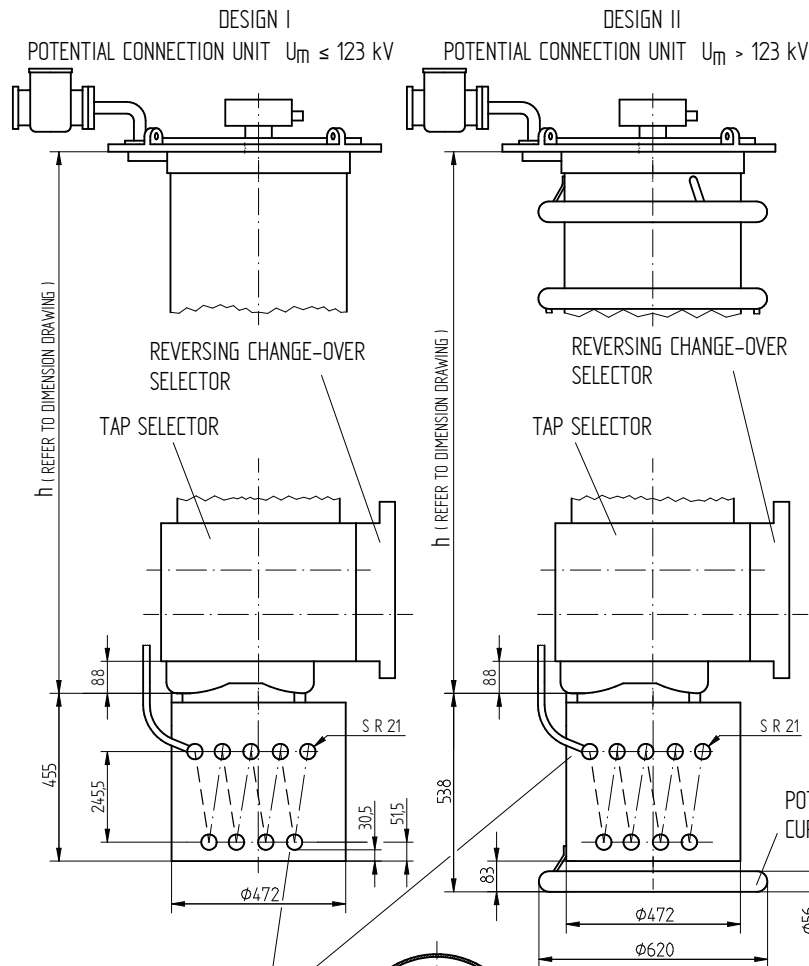
SERIAL NUMBER

MATERIAL NUMBER
 7197337E

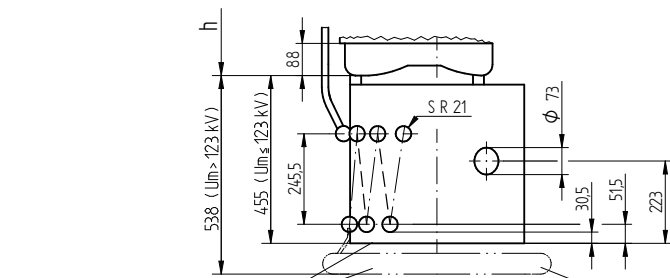
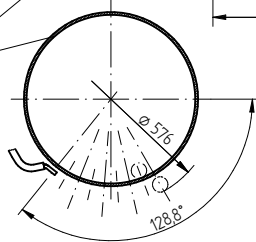
SHEET
 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2016
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

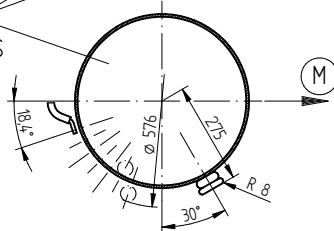
DATE	18.10.2016	DOCUMENT NO.	SED 1665234 000 05
CHFKD.	19.10.2016	NAME	CTETPRAKTIK2
STAND.	20.10.2016	CHANGE NO.	HILTNER
		SCALE	1:10
			1077668
			PRODASTSCHUK



WITHOUT TIE-IN SWITCH
 FOR MAX. 8 RESISTOR ELEMENTS
 (AS SHOWN)



WITH TIE-IN SWITCH
 FOR MAX. 6 RESISTOR ELEMENTS
 (AS SHOWN)

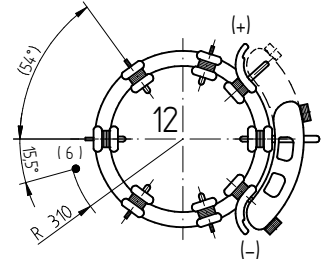
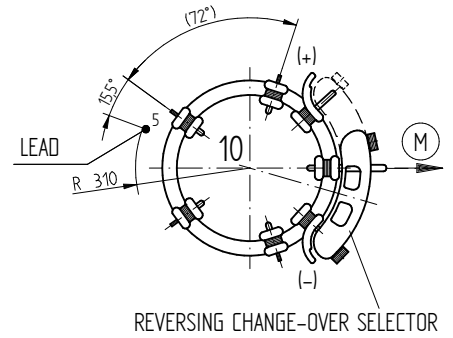


(M) DRIVE SIDE OF SELECTOR

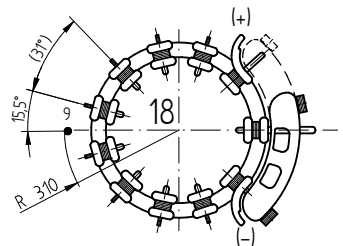
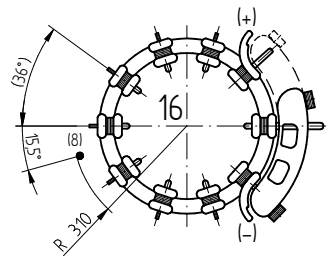
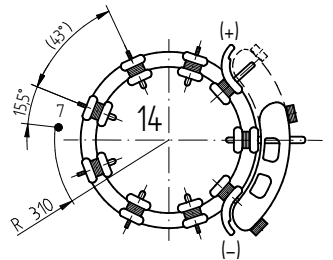
THE DETAILED CONNECTION DIAGRAM IS BINDING FOR THE DESIGNATION OF THE CONNECTION CONTACTS AND PHASES
 CONNECTIONS FROM THE TIE-IN RESISTOR TO THE SELECTOR AND TO THE ON-LOAD TAP-CHANGER CURRENT TAKE-OFF TERMINAL ARE CARRIED OUT BY MR

NOT APPLICABLE TO VM I 301

ARRANGEMENT OF LEADS
 TIE-IN RESISTOR - SELECTOR
 FOR CONTACT LOCATION REFER TO
 RELEVANT DIMENSION DRAWING



POTENTIAL OF THE ON-LOAD TAP-CHANGER
 CURRENT TAKE-OFF TERMINAL



DIMENSION
 IN mm
 EXCEPT AS
 NOTED



ON-LOAD TAP-CHANGER OILTAP®M, RM / VACUTAP® VM, VR
 M/RM/VM/VRC/VRE/VRS/VRM I - REVERS. CHANGE-OVER SEL. - SIZE B/C/D/DE
 TIE-IN RESISTORS WITH/WITHOUT TIE-IN SWITCH

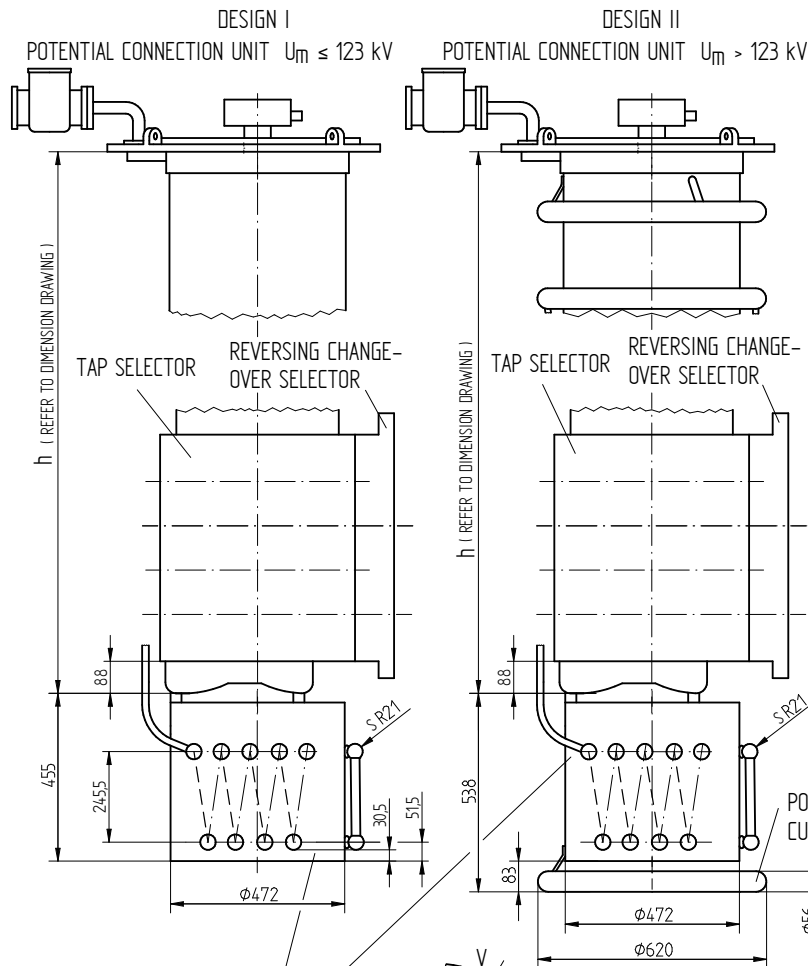
SERIAL NUMBER

MATERIAL NUMBER
 8986905E

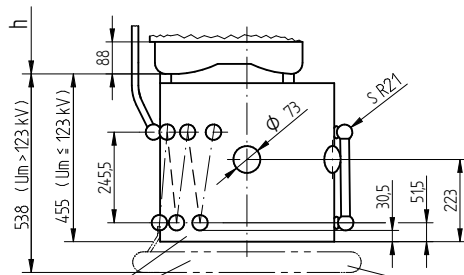
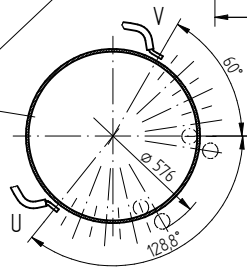
SHEET
 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2016
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

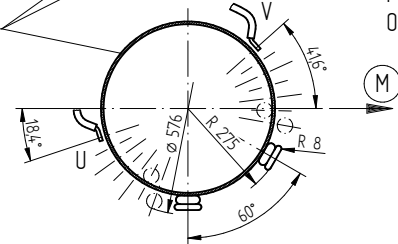
DATE	20.10.2016	DOCUMENT NO.	SED 1665189 000 05
DFTR.	20.10.2016	NAME	CTETPRAKTIK2
CHKD.	20.10.2016	SCALE	1:10
STAND.	20.10.2016	CHANGE NO.	1077668
		PRODASTSCHUK	



WITHOUT TIE-IN SWITCH
 FOR MAX. 8 RESISTOR
 ELEMENTS PER PHASE
 (AS SHOWN)



WITH TIE-IN SWITCH
 FOR MAX. 6 RESISTOR
 ELEMENTS PER PHASE
 (AS SHOWN)

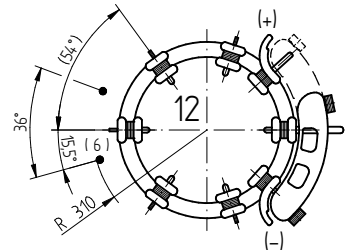
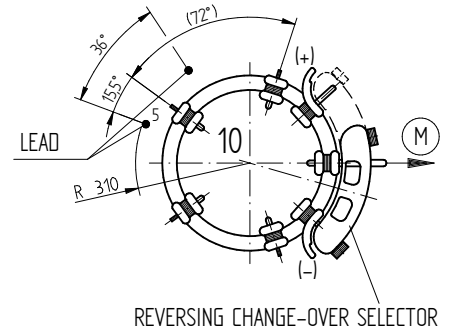


(M) DRIVE SIDE OF SELECTOR

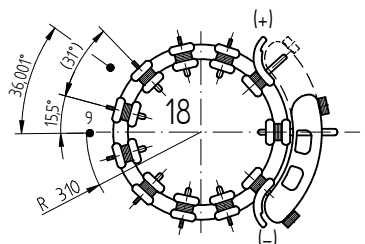
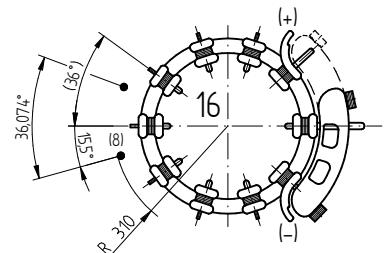
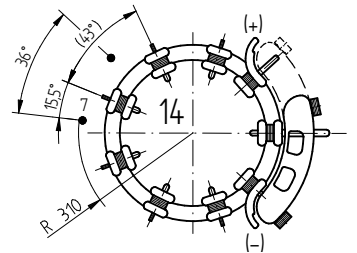
THE DETAILED CONNECTION DIAGRAM IS BINDING FOR THE DESIGNATION OF THE CONNECTION CONTACTS AND PHASES
 CONNECTIONS FROM THE TIE-IN RESISTOR TO THE SELECTOR AND TO THE ON-LOAD TAP-CHANGER CURRENT TAKE-OFF TERMINAL ARE CARRIED OUT BY MR

NOT APPLICABLE TO VM II 302

ARRANGEMENT OF LEADS
 TIE-IN RESISTOR - PHASE
 FOR CONTACT LOCATION REFER TO
 RELEVANT DIMENSION DRAWING



POTENTIAL OF THE ON-LOAD TAP-CHANGER
 CURRENT TAKE-OFF TERMINAL



DIMENSION
 IN mm
 EXCEPT AS
 NOTED



ON-LOAD TAP-CHANGER OILTAP®M, RM / VACUTAP® VM, VR
 M/RM/VM/VRC/VRE/VRS/VRM II- REVERS. CHANGE-OVER SEL- SIZE B/C/D/DE
 TIE-IN RESISTORS WITH/WITHOUT TIE-IN SWITCH

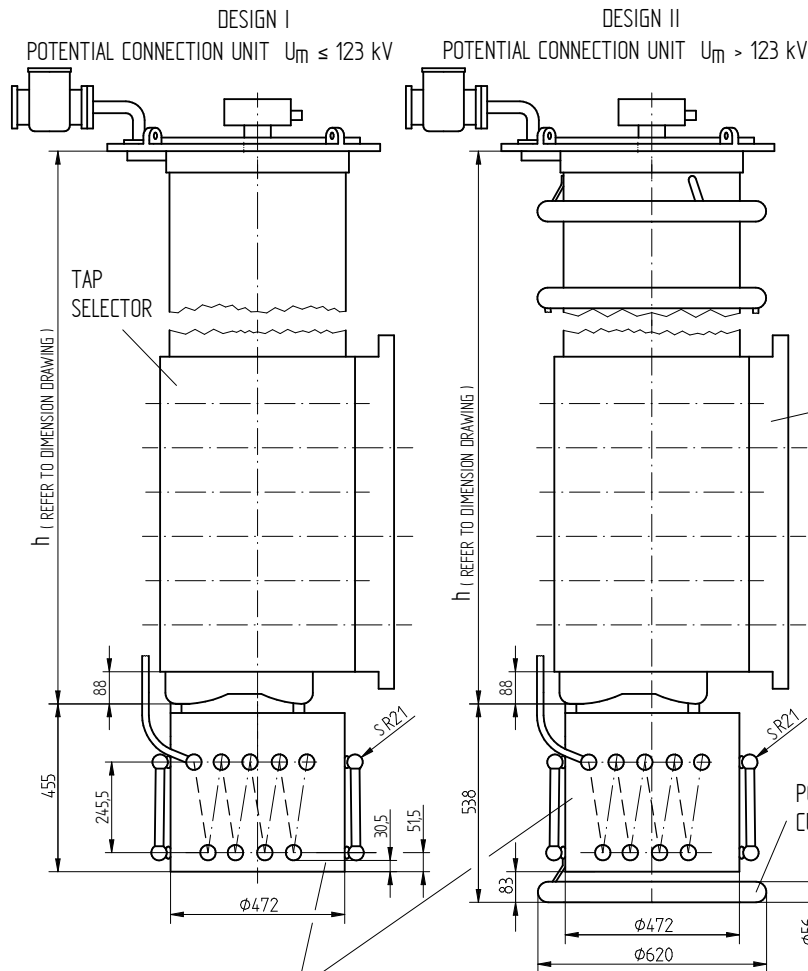
SERIAL NUMBER

MATERIAL NUMBER
 8986915E

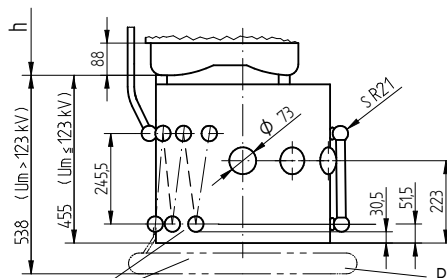
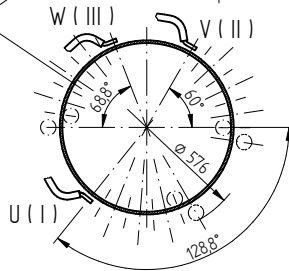
SHEET
 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

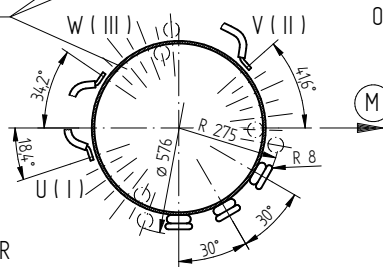
DATE	DOCUMENT NO.	NAME	SCALE
12.07.2018	SED 1665139 000 06	BUTERUS	1:10
CHKO. 16.07.2018	CHANGE NO.	WILHELM	
STAND. 16.07.2018	1086956	PRODASTSCHUK	



WITHOUT TIE-IN SWITCH
 FOR MAX. 8 RESISTOR
 ELEMENTS PER PHASE
 (AS SHOWN)



WITH TIE-IN SWITCH
 FOR MAX. 6 RESISTOR
 ELEMENTS PER PHASE
 (AS SHOWN)

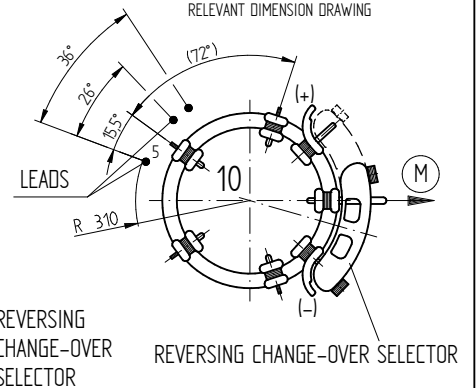


(M) DRIVE SIDE OF SELECTOR

THE DETAILED CONNECTION DIAGRAM IS BINDING FOR THE DESIGNATION OF THE CONNECTION CONTACTS AND PHASES
 CONNECTIONS FROM THE TIE-IN RESISTOR TO THE SELECTOR AND TO THE ON-LOAD TAP-CHANGER CURRENT TAKE-OFF TERMINAL ARE CARRIED OUT BY MR

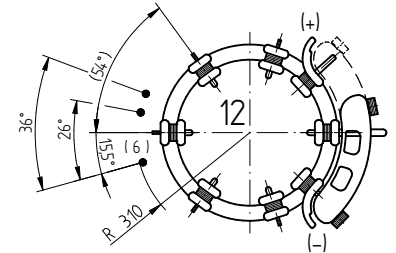
NOT APPLICABLE TO VMS III 400 Y - B

ARRANGEMENT OF LEADS
 TIE-IN RESISTOR - PHASE
 FOR CONTACT LOCATION REFER TO
 RELEVANT DIMENSION DRAWING

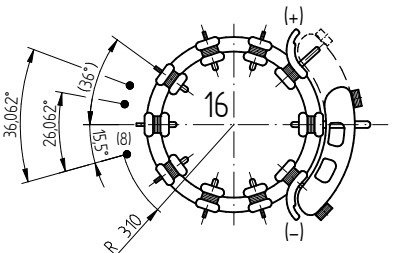
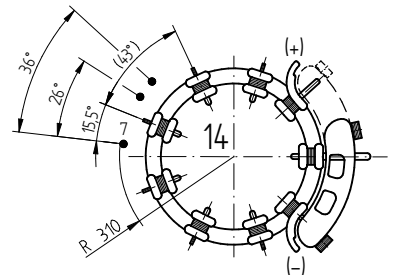


REVERSING
 CHANGE-OVER
 SELECTOR

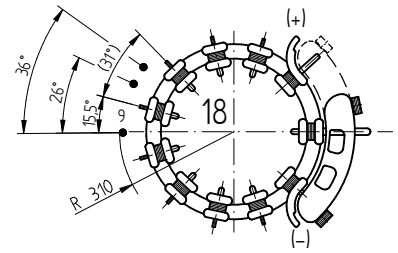
REVERSING CHANGE-OVER SELECTOR



POTENTIAL OF THE ON-LOAD TAP-CHANGER
 CURRENT TAKE-OFF TERMINAL



POTENTIAL OF THE MIDDLE
 OF THE TAP WINDING



DIMENSION
 IN mm
 EXCEPT AS
 NOTED



OLTC OILTAP® M, RM / VACUTAP® VM®, VMS®-C, VR®
 M/RM/VM/VMS/VRC/VRE/VRS/VRM III Y - REV. COS - M-SEL. SIZE B/C/D/DE
 TIE-IN RESISTORS WITH / WITHOUT TIE-IN SWITCH

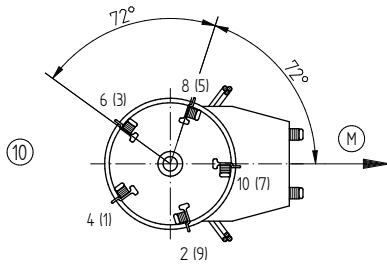
SERIAL NUMBER

MATERIAL NUMBER
 8986926E

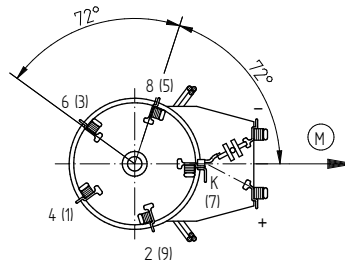
SHEET
 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF A PATENT, UTILITY MODEL OR DESIGN.

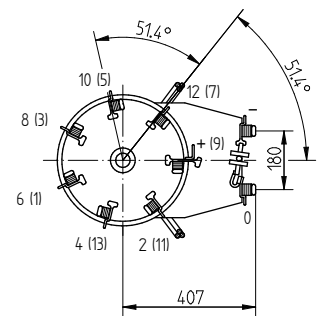
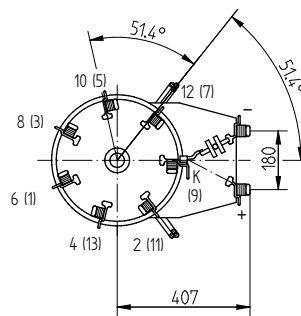
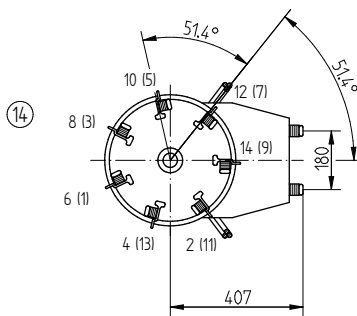
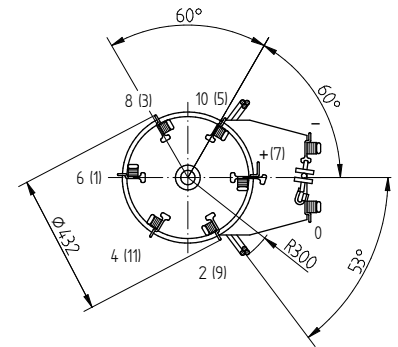
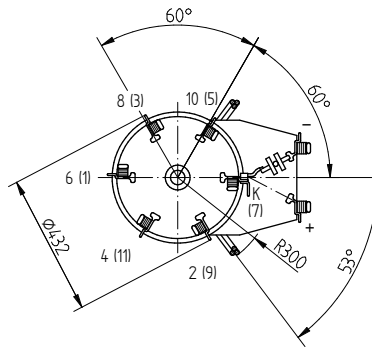
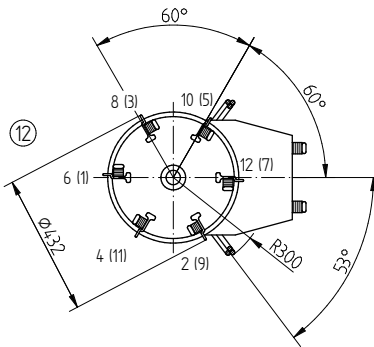
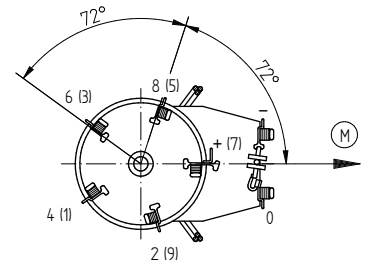
SELECTOR WITHOUT CHANGE-OVER SELECTOR



SELECTOR WITH REVERSING CHANGE-OVER SELECTOR



SELECTOR WITH COARSE CHANGE-OVER SELECTOR



DESIGNATION OF SELECTOR TERMINALS
 E. G.: 4 UPPER CONTACT PLANE
 (13) LOWER CONTACT PLANE

(M) DRIVE SIDE OF SELECTOR
 (10) (12) (14) SELECTOR PITCH

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

DATE	NAME	DOCUMENT NO.
DFTR. 11.07.2018	BUTERUS	SED 6181604-001 00
CHKD. 16.07.2018	WILHELM	SCALE
STAND. 16.07.2018	PRODASTSCHUK	1086956
		18

DIMENSION IN mm EXCEPT AS NOTED



ON-LOAD TAP-CHANGER VACUTAP® VMS®
 ARRANGEMENT OF CONTACTS AT SELECTOR
 SELECTOR SIZE B

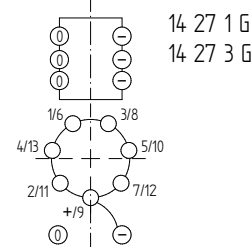
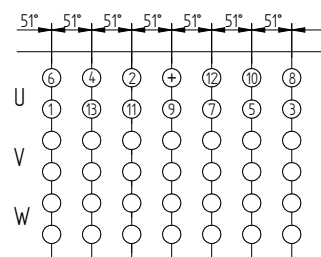
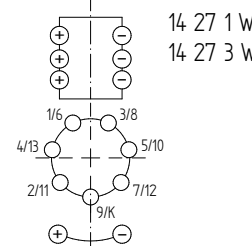
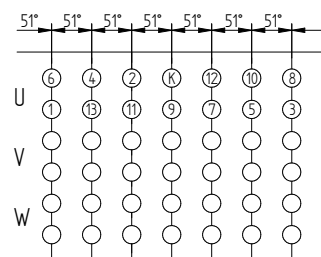
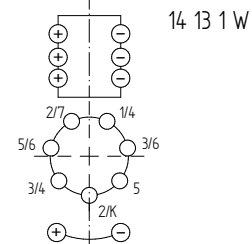
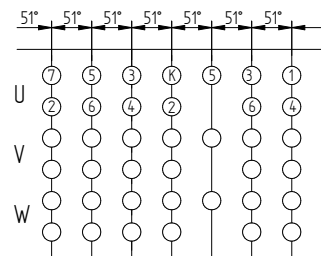
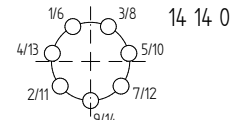
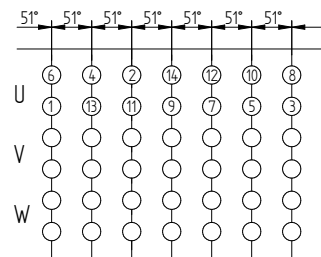
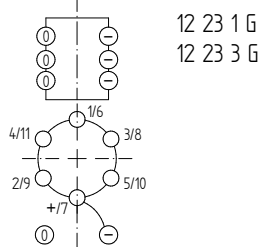
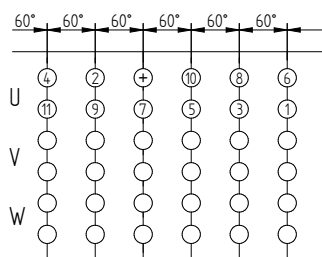
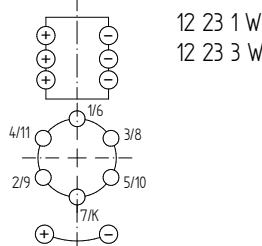
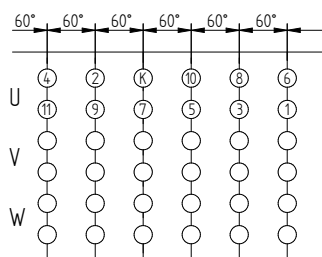
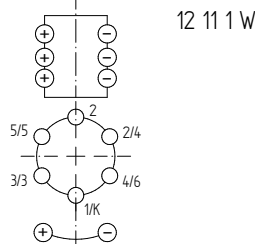
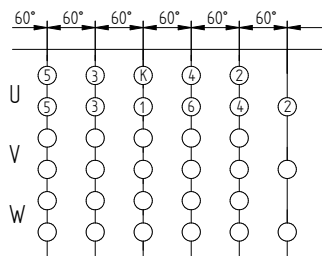
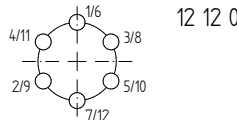
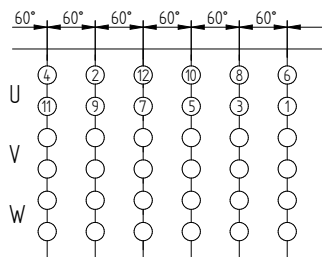
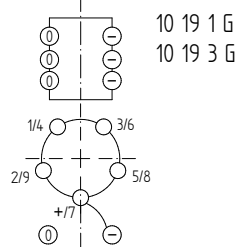
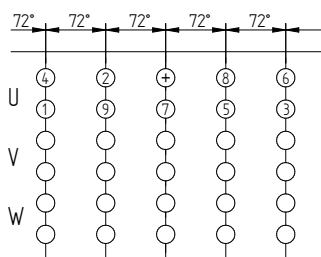
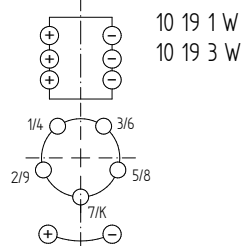
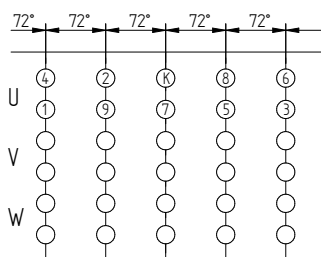
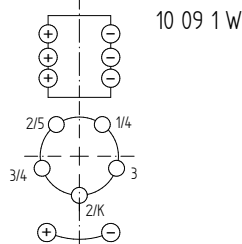
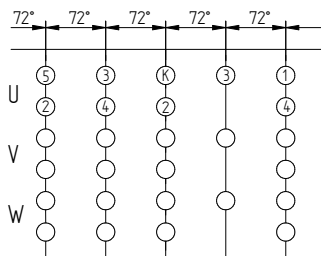
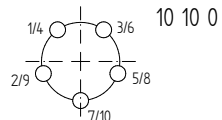
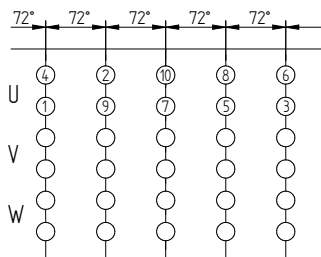
SERIAL NUMBER

MATERIAL NUMBER
101170250E

SHEET
1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

DATE	NAME	DOCUMENT NO.
DFTR. 11.07.2018	BUTERUS	SED 6181620 001 00
CHKD. 16.07.2018	WILHELM	SCALE
STAND. 16.07.2018	PRODASTSCHUK	CHANGE NO. 1086956



DIMENSION
IN mm
EXCEPT AS
NOTED



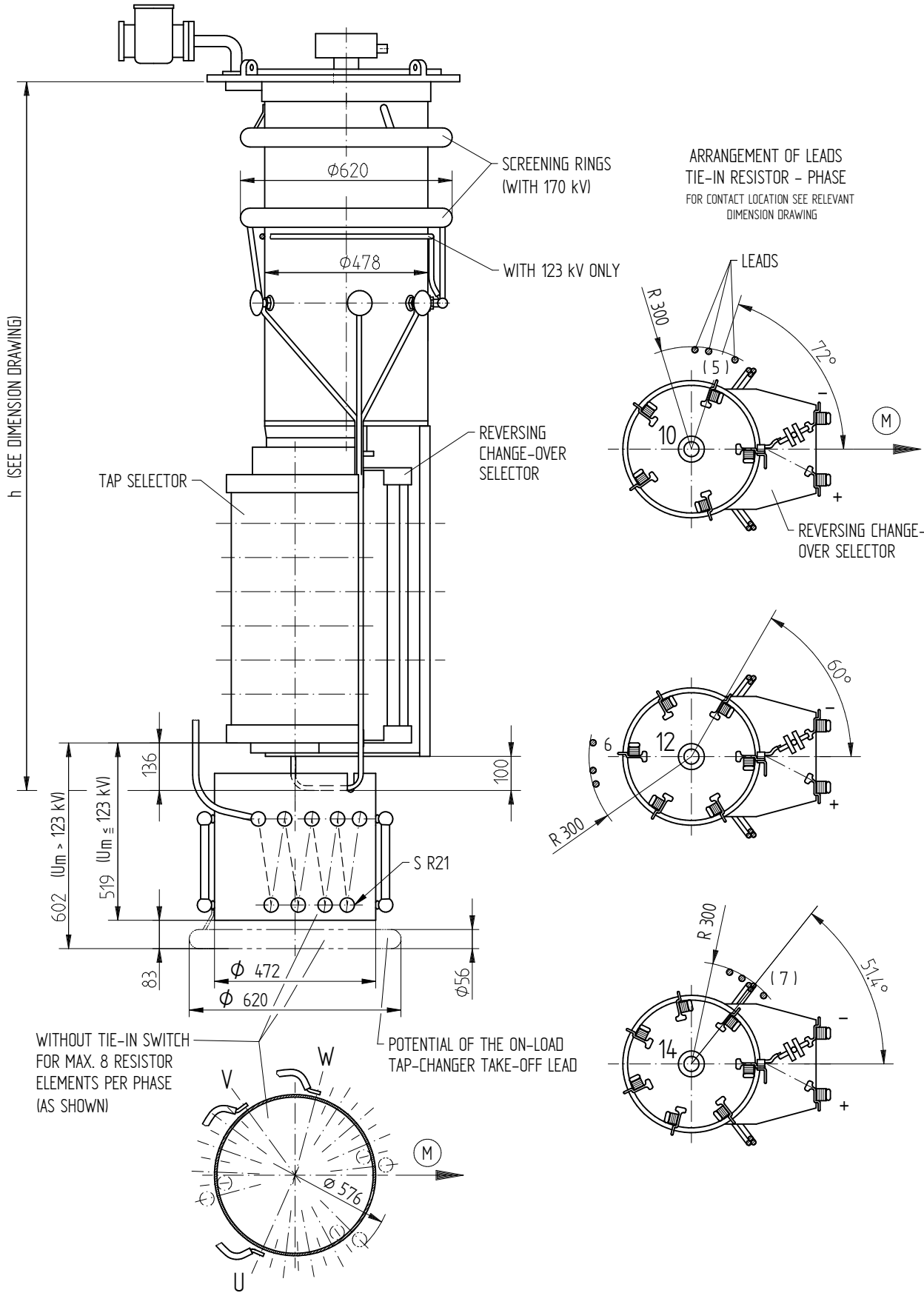
ON-LOAD TAP-CHANGER VACUTAP® VMS®
CONTACT ARRANGEMENT ON SELECTOR
SELECTOR SIZE B

SERIAL NUMBER

MATERIAL NUMBER
101170290E

SHEET
1/1

© MASCHINENFABRIK REINHOLD GMBH 2018
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



(M) - DRIVE SIDE OF SELECTOR

THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER IS BINDING FOR THE DESIGNATION OF THE TERMINALS AND PHASES.

DATE	NAME	DOCUMENT NO.
11.07.2018	BUTERUS	SED 6011874 001 00
16.07.2018	WILHELM	CHANGE NO.
16.07.2018	PRODASTSCHUK	1086956
SCALE		1:8

DIMENSION IN mm EXCEPT AS NOTED



ON-LOAD TAP-CHANGER VACUTAP® VMS®
 VMSIII400Y - B - TIE-IN RESISTORS WITHOUT TIE-IN SWITCH
 DIMENSION DRAWING

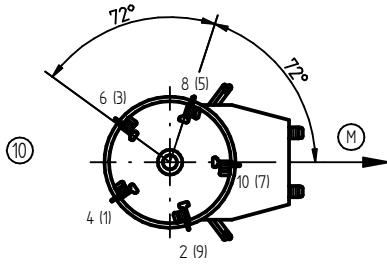
SERIAL NUMBER

MATERIAL NUMBER
 101165630E

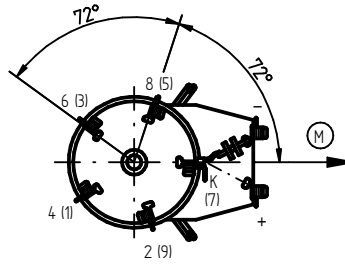
SHEET
 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2016
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

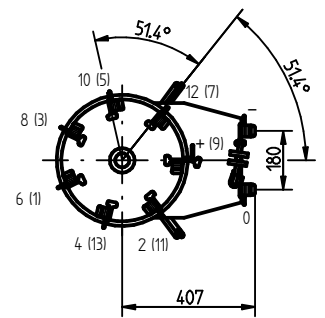
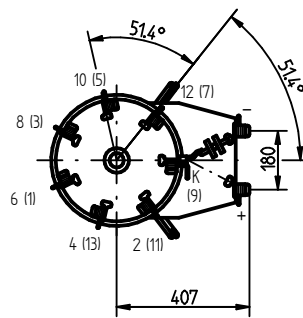
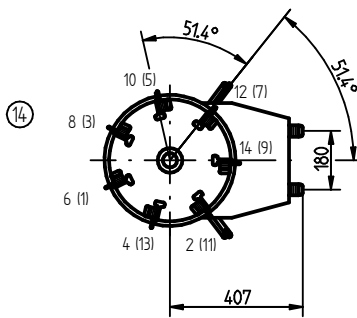
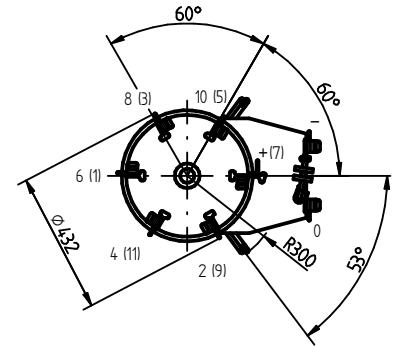
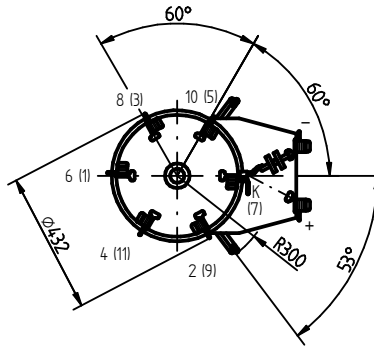
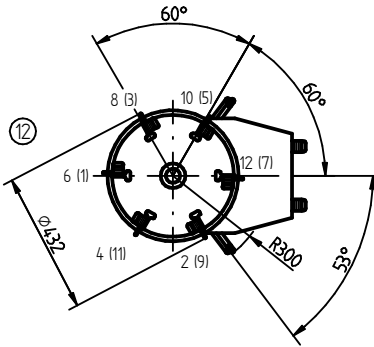
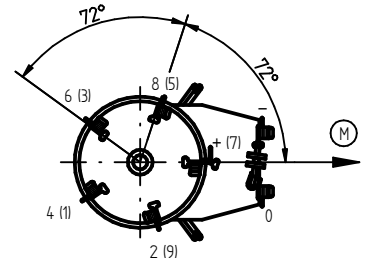
SELECTOR WITHOUT CHANGE-OVER SELECTOR



SELECTOR WITH REVERSING CHANGE-OVER SELECTOR



SELECTOR WITH COARSE CHANGE-OVER SELECTOR



DESIGNATION OF SELECTOR TERMINALS
 E. G.: 4 UPPER CONTACT PLANE
 (13) LOWER CONTACT PLANE

(M) DRIVE SIDE OF SELECTOR
 (10) (12) (14) SELECTOR PITCH

FOR BINDING DESIGNATIONS OF TERMINALS AND PHASES REFER TO THE CONNECTION DIAGRAM OF THE ON-LOAD TAP-CHANGER.

DATE	NAME	DOCUMENT NO.
26.01.2016	RAEDLINGER	SED 1050454-001 02
25.02.2016	TKBIRKMAN	SCALE
25.02.2016	PRODASTSCHUK	CHANGE NO. 1072100
		18

DIMENSION
 IN mm
 EXCEPT AS
 NOTED



ON-LOAD TAP-CHANGER OILTAP® MS / VACUTAP® VM 300
 ARRANGEMENT OF CONTACTS AT SELECTOR
 SELECTOR SIZE B

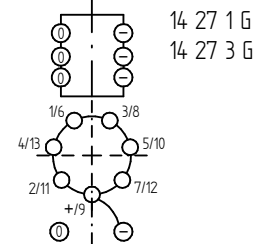
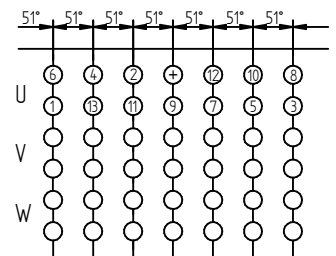
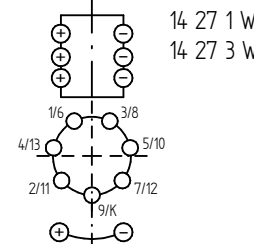
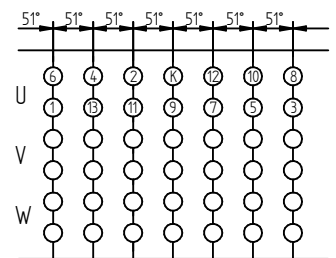
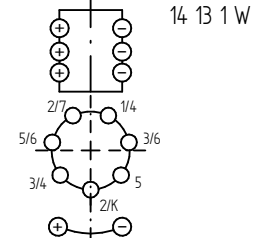
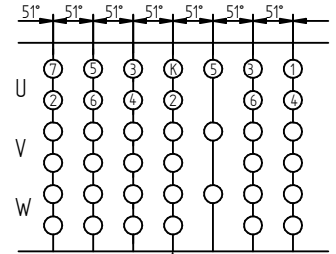
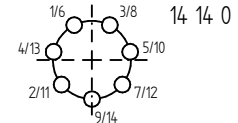
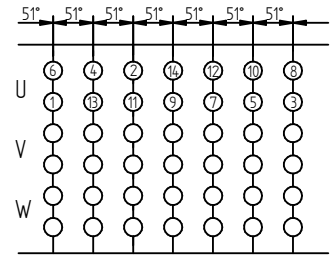
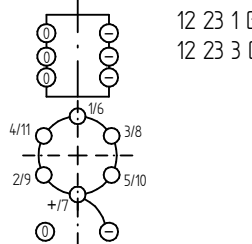
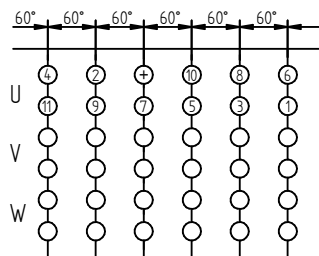
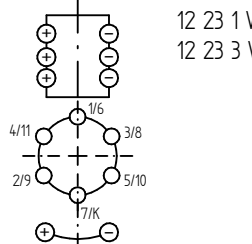
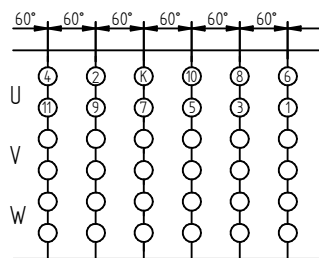
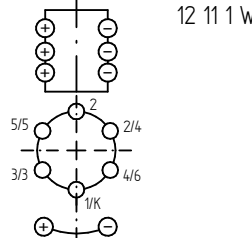
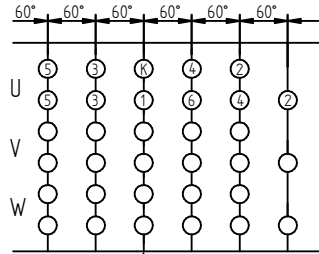
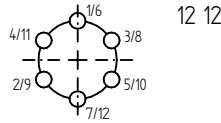
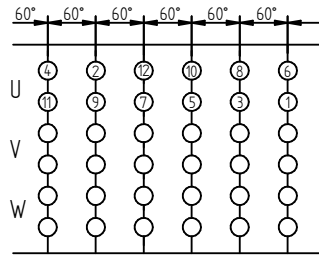
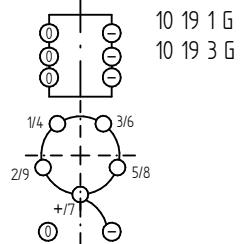
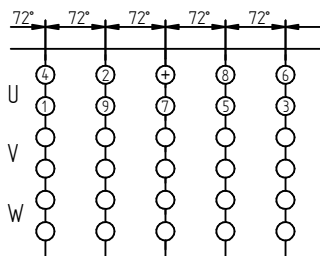
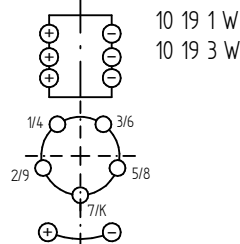
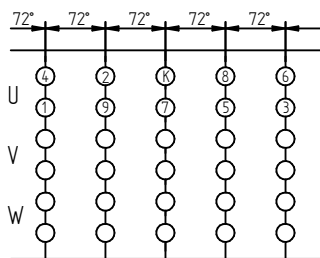
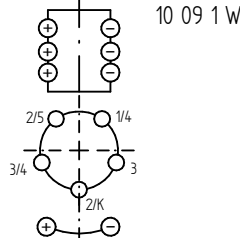
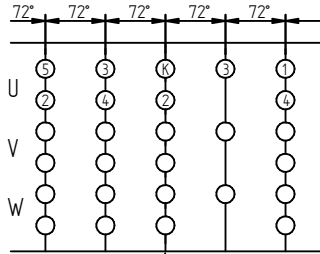
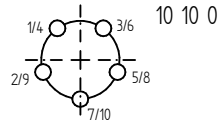
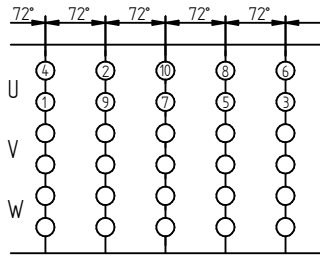
SERIAL NUMBER

MATERIAL NUMBER
 8980414E

SHEET
 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2016
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

DATE	NAME	DOCUMENT NO.
26.01.2016	RAEDLINGER	SED 2617011 001 01
25.02.2016	TKBIRKMAN	SCALE
25.02.2016	PRODASTSCHUK	CHANGE NO.
		1072100



DIMENSION
 IN mm
 EXCEPT AS
 NOTED



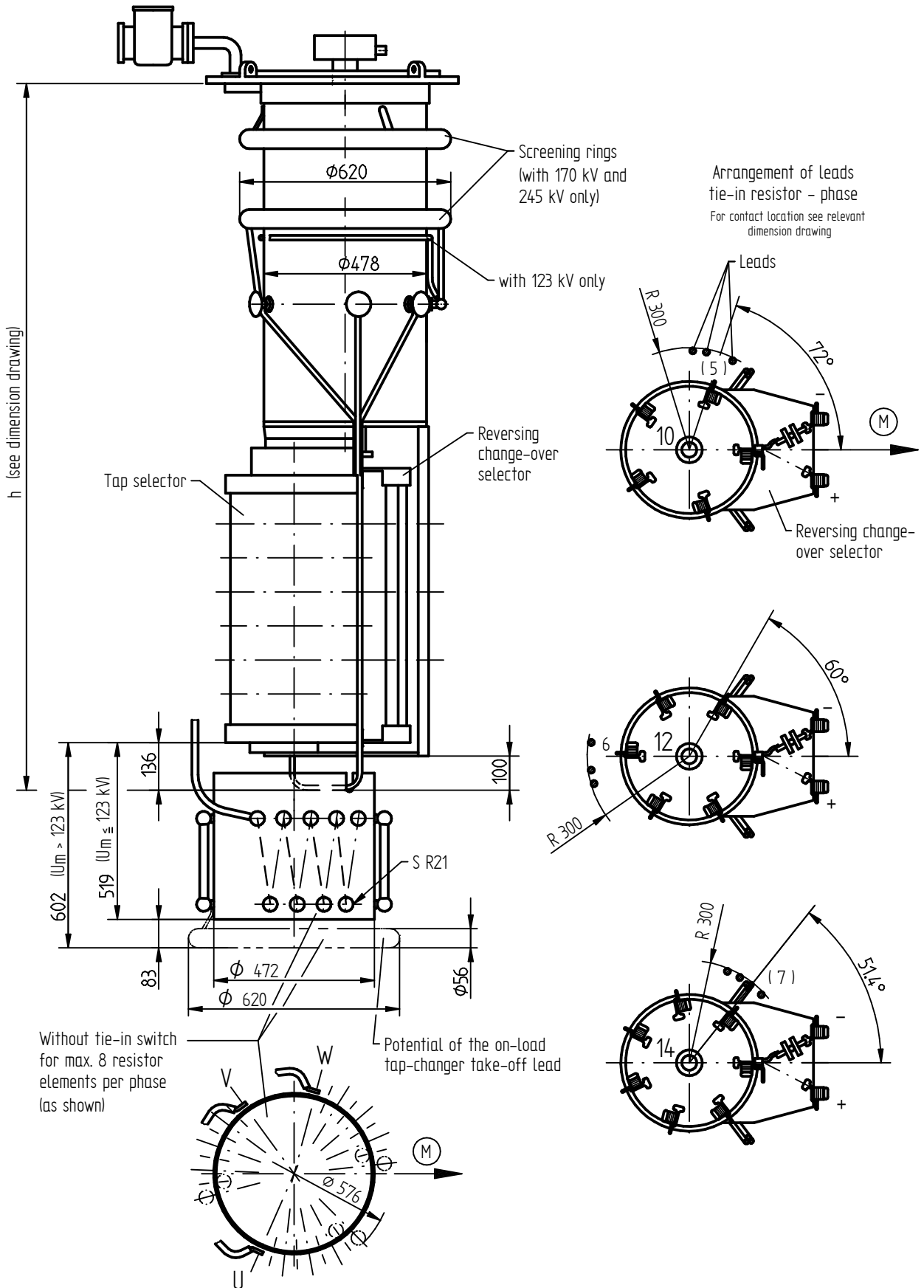
ON-LOAD TAP-CHANGER OILTAP® MS / VACUTAP® VM 300
 CONTACT ARRANGEMENT ON SELECTOR FOR SELECTOR SIZE B

SERIAL NUMBER

MATERIAL NUMBER
 8911145E

SHEET
 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2016
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.



Without tie-in switch for max. 8 resistor elements per phase (as shown)

Potential of the on-load tap-changer take-off lead

(M) - Drive side of selector

The connection diagram of the on-load tap-changer is binding for the designation of the terminals and phases.

DATE	NAME	DOCUMENT NO.
23.03.2016	RAEDLINGER	SED 1050467 001 04
CHKD. 11.04.2016	MENZELS	CHANGE NO.
STAND. 11.04.2016	PRODASTSCHUK	1073378
		SCALE
		1:8

DIMENSION IN mm EXCEPT AS NOTED



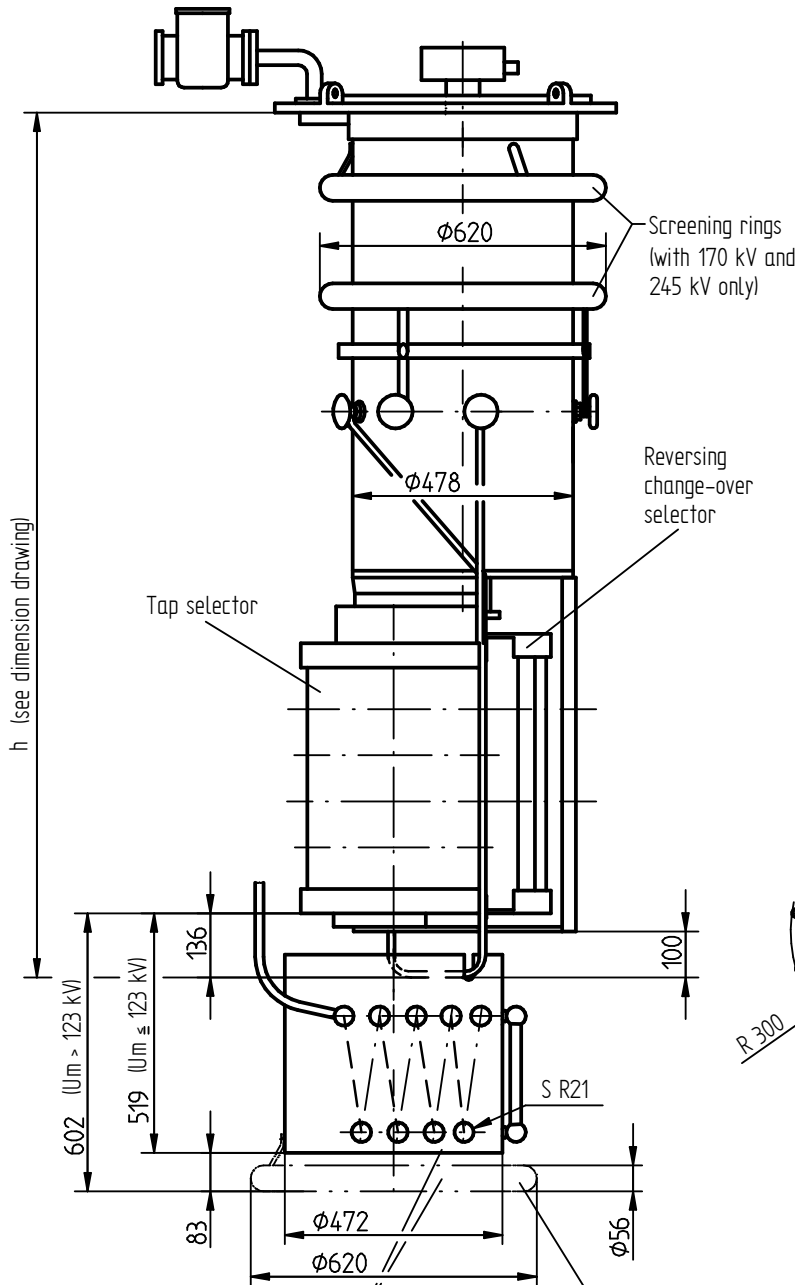
ON-LOAD TAP-CHANGER OILTAP® MS AND VACUTAP® VM®
 MS III / VM III 300 - SELECTOR SIZE B
 TIE-IN RESISTORS WITHOUT TIE-IN SWITCH

SERIAL NUMBER

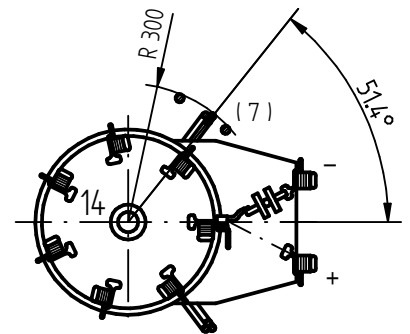
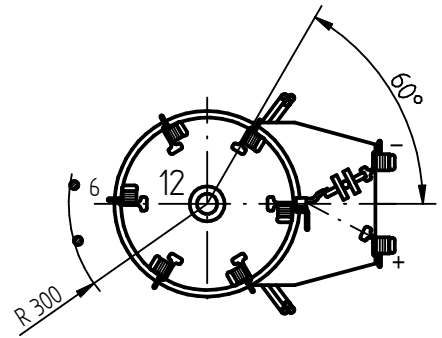
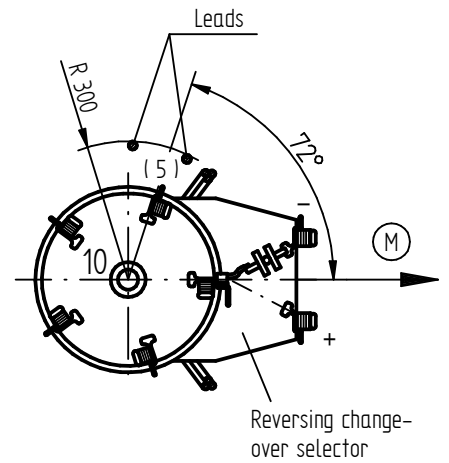
MATERIAL NUMBER
8986954E

SHEET
1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2016
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

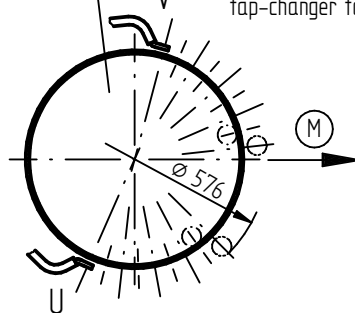


Arrangement of leads tie-in resistor - phase
 For contact location see relevant dimension drawing



Without tie-in switch for max. 8 resistor elements per phase (as shown)

Potential of the on-load tap-changer take-off terminal



(M) - Drive side of selector

The connection diagram of the on-load tap-changer is binding for the designation of the terminals and phases.

DATE	NAME	DOCUMENT NO.
23.03.2016	RAEDLINGER	SED 1050465 001 03
CHKO. 11.04.2016	MENZELS	CHANGE NO.
STAND. 11.04.2016	PRODASTSCHUK	1073378
		SCALE 1:8

DIMENSION IN mm EXCEPT AS NOTED



ON-LOAD TAP-CHANGER OILTAP® MS AND VACUTAP® VM®
 MS II / VM II 302 - SELECTOR SIZE B
 TIE-IN RESISTORS WITHOUT TIE-IN SWITCH

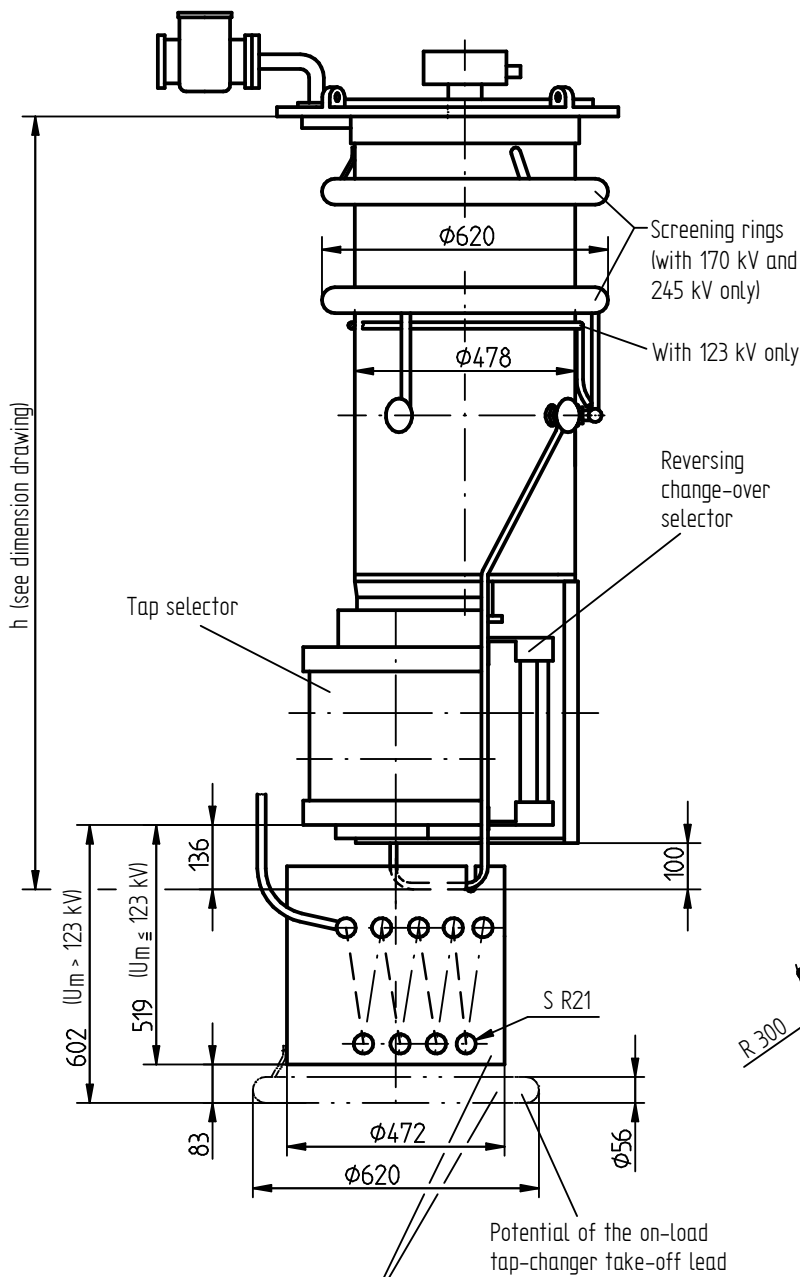
SERIAL NUMBER

MATERIAL NUMBER 8986944E

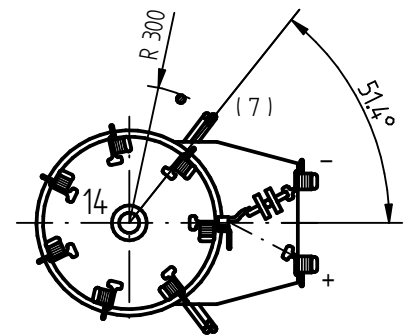
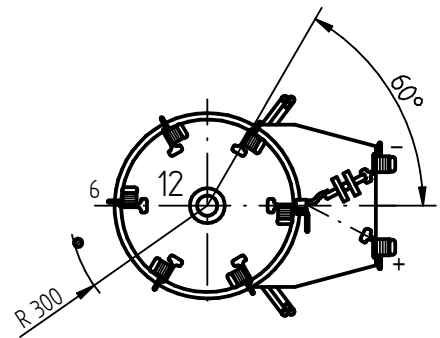
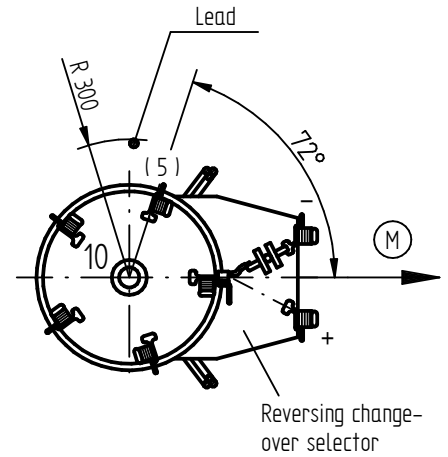
SHEET 1/1

© MASCHINENFABRIK REINHAUSEN GMBH 2016
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPRESS AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. ALL RIGHTS RESERVED IN THE EVENT OF THE GRANT OF A PATENT, UTILITY MODEL OR DESIGN.

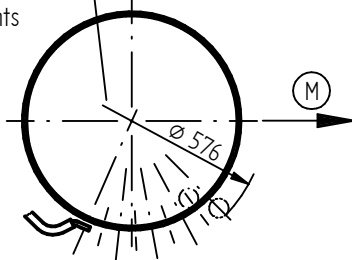
DATE	NAME	DOCUMENT NO.
22.03.2016	RAEDLINGER	SED 1050463 001 03
CHKO. 11.04.2016	MENZELS	CHANGE NO.
STAND. 11.04.2016	PRODASTSCHUK	1073378
		SCALE
		1:8



Arrangement of leads tie-in resistor - selector
 For contact location see relevant dimension drawing



Without tie-in switch for max. 8 resistor elements (as shown)



(M) - Drive side of selector

The connection diagram of the on-load tap-changer is binding for the designation of the terminals.

DIMENSION IN mm EXCEPT AS NOTED



ON-LOAD TAP-CHANGER OILTAP® MS AND VACUTAP® VM®
 MS I / VM I 301 - SELECTOR SIZE B
 TIE-IN RESISTORS WITHOUT TIE-IN SWITCH

SERIAL NUMBER

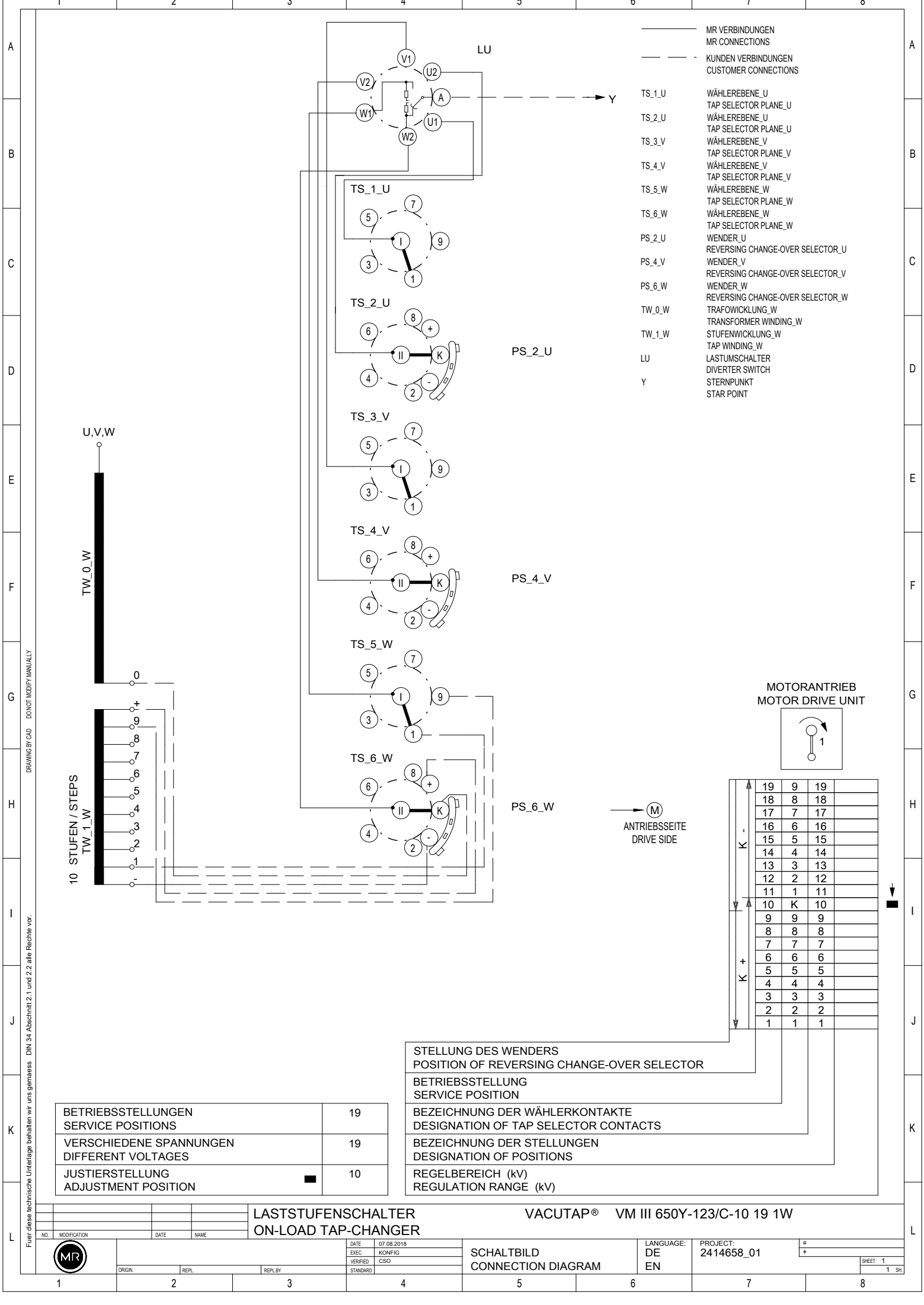
MATERIAL NUMBER 8986934E

SHEET 1/1

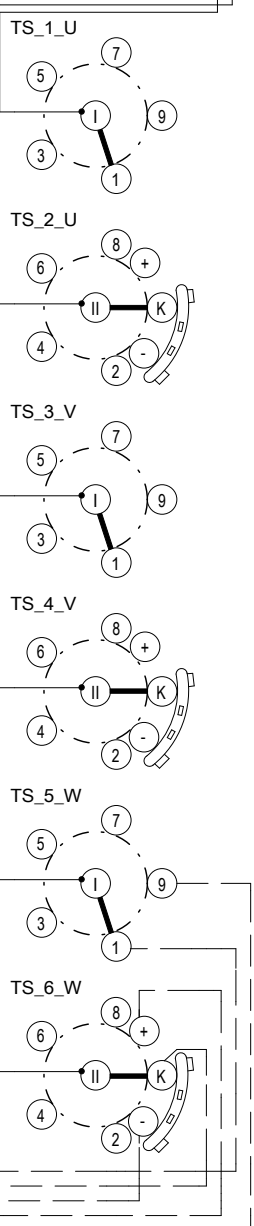
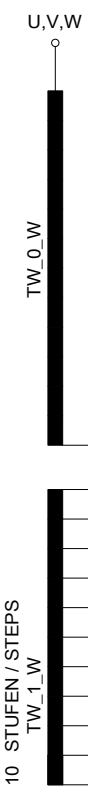
4.6 接线图 (示例)

其中所包含的接线图只是示例。

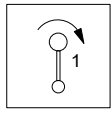
订单指定的接线图附在交付的货物中。



- MR VERBINDUNGEN
MR CONNECTIONS
- KUNDEN VERBINDUNGEN
CUSTOMER CONNECTIONS
- TS_1_U WÄHLEREBENE_U
TAP SELECTOR PLANE_U
- TS_2_U WÄHLEREBENE_U
TAP SELECTOR PLANE_U
- TS_3_V WÄHLEREBENE_V
TAP SELECTOR PLANE_V
- TS_4_V WÄHLEREBENE_V
TAP SELECTOR PLANE_V
- TS_5_W WÄHLEREBENE_W
TAP SELECTOR PLANE_W
- TS_6_W WÄHLEREBENE_W
TAP SELECTOR PLANE_W
- PS_2_U WENDER_U
REVERSING CHANGE-OVER SELECTOR_U
- PS_4_V WENDER_V
REVERSING CHANGE-OVER SELECTOR_V
- PS_6_W WENDER_W
REVERSING CHANGE-OVER SELECTOR_W
- TW_0_W TRAFOWICKLUNG_W
TRANSFORMER WINDING_W
- TW_1_W STUFENWICKLUNG_W
TAP WINDING_W
- LU LASTUMSCHALTER
DIVERTER SWITCH
- Y STERNPUNKT
STAR POINT



MOTORANTRIEB
MOTOR DRIVE UNIT



(M)
ANTRIEBSSEITE
DRIVE SIDE

19	9	19
18	8	18
17	7	17
16	6	16
15	5	15
14	4	14
13	3	13
12	2	12
11	1	11
10	K	10
9	9	9
8	8	8
7	7	7
6	6	6
5	5	5
4	4	4
3	3	3
2	2	2
1	1	1

BETRIEBSSTELLUNGEN SERVICE POSITIONS	19
VERSCHIEDENE SPANNUNGEN DIFFERENT VOLTAGES	19
JUSTIERSTELLUNG ADJUSTMENT POSITION	10

STELLUNG DES WENDERS POSITION OF REVERSING CHANGE-OVER SELECTOR	19
BETRIEBSSTELLUNG SERVICE POSITION	19
BEZEICHNUNG DER WÄHLERKONTAKTE DESIGNATION OF TAP SELECTOR CONTACTS	19
BEZEICHNUNG DER STELLUNGEN DESIGNATION OF POSITIONS	19
REGELBEREICH (kV) REGULATION RANGE (kV)	10

LASTSTUFENSCHALTER VACUTAP® VM III 650Y-123/C-10 19 1W
ON-LOAD TAP-CHANGER

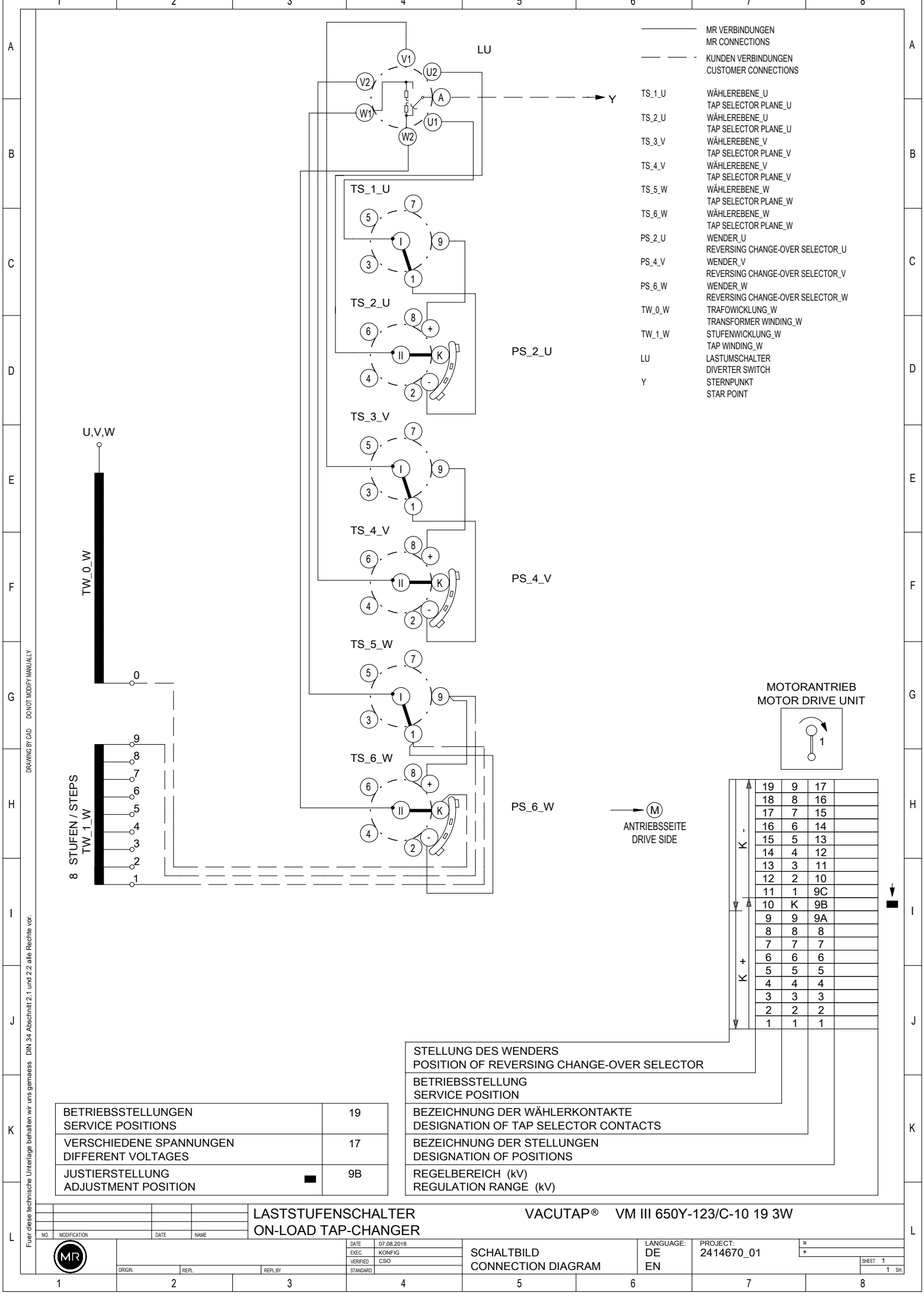
NO.	MODIFICATION	DATE	NAME

DATE	07.08.2018
ERIC	KONFIG
VERIFIED	CSO
STANDARD	

SCHALTBILD
CONNECTION DIAGRAM

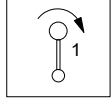
LANGUAGE:	DE
EN	
PROJECT:	2414658_01

FÜR DIESE TECHNISCHE UNTERLAGE BEHALTEN WIR UNS GEMÄSS DIN 34 ABSCHNITT 2.1 UND 2.2 ALLE RECHTE VOR.
 DRAWING BY CAD DO NOT MODIFY MANUALLY



- MR VERBINDUNGEN
MR CONNECTIONS
- KUNDEN VERBINDUNGEN
CUSTOMER CONNECTIONS
- TS_1_U WÄHLEREbene_U
TAP SELECTOR PLANE_U
- TS_2_U WÄHLEREbene_U
TAP SELECTOR PLANE_U
- TS_3_V WÄHLEREbene_V
TAP SELECTOR PLANE_V
- TS_4_V WÄHLEREbene_V
TAP SELECTOR PLANE_V
- TS_5_W WÄHLEREbene_W
TAP SELECTOR PLANE_W
- TS_6_W WÄHLEREbene_W
TAP SELECTOR PLANE_W
- PS_2_U WENDER_U
REVERSING CHANGE-OVER SELECTOR_U
- PS_4_V WENDER_V
REVERSING CHANGE-OVER SELECTOR_V
- PS_6_W WENDER_W
REVERSING CHANGE-OVER SELECTOR_W
- TW_0_W TRAFOWICKLUNG_W
TRANSFORMER WINDING_W
- TW_1_W STUFENWICKLUNG_W
TAP WINDING_W
- LU LASTUMSCHALTER
DIVERter SWITCH
- Y STERNPUNKT
STAR POINT

MOTORANTRIEB
MOTOR DRIVE UNIT



19	9	17	
18	8	16	
17	7	15	
16	6	14	
15	5	13	
14	4	12	
13	3	11	
12	2	10	
11	1	9C	
10	K	9B	
9	9	9A	
8	8	8	
7	7	7	
6	6	6	
5	5	5	
4	4	4	
3	3	3	
2	2	2	
1	1	1	

(M)
ANTRIEBSSEITE
DRIVE SIDE

STELLUNG DES WENDERS POSITION OF REVERSING CHANGE-OVER SELECTOR
BETRIEBSSTELLUNG SERVICE POSITION
BEZEICHNUNG DER WÄHLERKONTAKTE DESIGNATION OF TAP SELECTOR CONTACTS
BEZEICHNUNG DER STELLUNGEN DESIGNATION OF POSITIONS
REGELBEREICH (kV) REGULATION RANGE (kV)

BETRIEBSSTELLUNGEN SERVICE POSITIONS	19
VERSCHIEDENE SPANNUNGEN DIFFERENT VOLTAGES	17
JUSTIERSTELLUNG ADJUSTMENT POSITION	9B

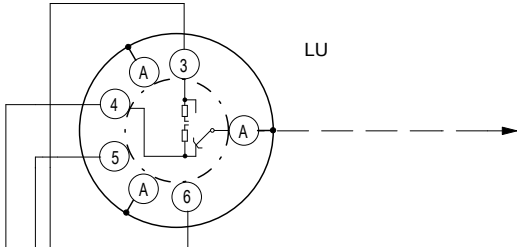
LASTSTUFENSCHALTER VACUTAP® VM III 650Y-123/C-10 19 3W
ON-LOAD TAP-CHANGER

FÜR DIESE TECHNISCHE UNTERLAGE GELTEN DIE VORGESCHRIEBENEN MASSSTÄBE: DIN 34 ABSCHNITT 2.1 UND 2.2 ALLE RECHTE VOR.
DRAWING BY CAD DO NOT MODIFY MANUALLY

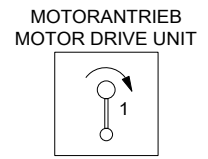
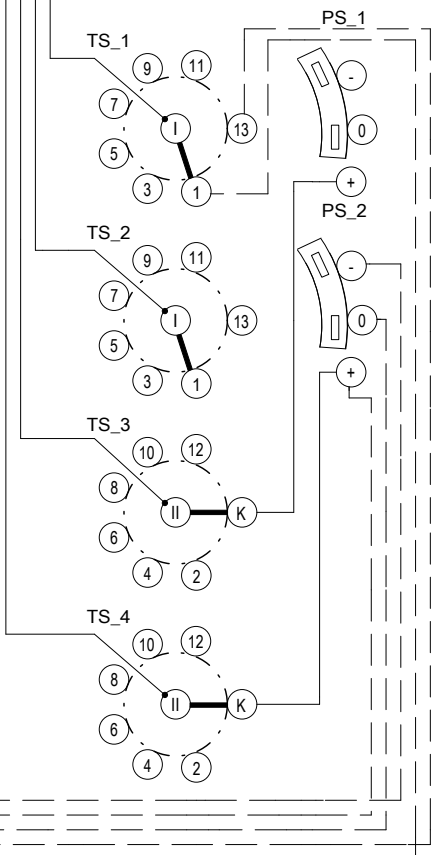
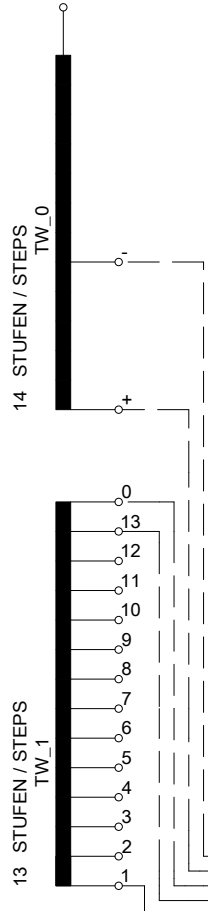
MR	DATE	07.08.2018	SCHALTBILD CONNECTION DIAGRAM	LANGUAGE:	DE	PROJECT: 2414670_01	=
	DESIGNED	KONFIG		EN	+		
NO.	MODIFICATION	DATE	NAME	STANDARD			SHEET 1
1							1 SH

ACHTUNG
 PARALLELBRÜCKEN VON MR NICHT ANGEBAUT
 VON TS_1 (PS_1) NACH TS_2 (PS_2)
 VON TS_3 NACH TS_4

ATTENTION !
 PARALLEL BRIDGES ARE NOT INSTALLED BY MR
 FROM TS_1 (PS_1) TO TS_2 (PS_2)
 FROM TS_3 TO TS_4



- MR VERBINDUNGEN
MR CONNECTIONS
- KUNDEN VERBINDUNGEN
CUSTOMER CONNECTIONS
- TS_1 WÄHLEREBENE
TAP SELECTOR PLANE
- TS_2 WÄHLEREBENE
TAP SELECTOR PLANE
- TS_3 WÄHLEREBENE
TAP SELECTOR PLANE
- TS_4 WÄHLEREBENE
TAP SELECTOR PLANE
- PS_1 GROBWÄHLER
COARSE TAP SELECTOR
- PS_2 GROBWÄHLER
COARSE TAP SELECTOR
- TW_0 TRAFOWICKLUNG
TRANSFORMER WINDING
- TW_1 STUFENWICKLUNG
TAP WINDING
- LU LASTUMSCHALTER
DIVERTER SWITCH



27	13	27	
26	12	26	
25	11	25	
24	10	24	
23	9	23	
22	8	22	
21	7	21	
20	6	20	
19	5	19	
18	4	18	
17	3	17	
16	2	16	
15	1	15	
14	K	14	
13	13	13	
12	12	12	
11	11	11	
10	10	10	
9	9	9	
8	8	8	
7	7	7	
6	6	6	
5	5	5	
4	4	4	
3	3	3	
2	2	2	
1	1	1	

➔ (M)
 ANTRIEBSSEITE
 DRIVE SIDE

STELLUNG DES GROBWÄHLERS POSITION OF COARSE TAP SELECTOR
BETRIEBSSTELLUNG SERVICE POSITION
BEZEICHNUNG DER WÄHLERKONTAKTE DESIGNATION OF TAP SELECTOR CONTACTS
BEZEICHNUNG DER STELLUNGEN DESIGNATION OF POSITIONS
REGELBEREICH (kV) REGULATION RANGE (kV)

BETRIEBSSTELLUNGEN SERVICE POSITIONS	27
VERSCHIEDENE SPANNUNGEN DIFFERENT VOLTAGES	27
JUSTIERSTELLUNG ADJUSTMENT POSITION	14

LASTSTUFENSCHALTER VACUTAP® VM I 802-123/D-14 27 1G
ON-LOAD TAP-CHANGER

NO.	MODIFICATION	DATE	NAME



DATE	07.08.2018
ERIC	KONFIG
VERIFIED	CSO
STANDARD	

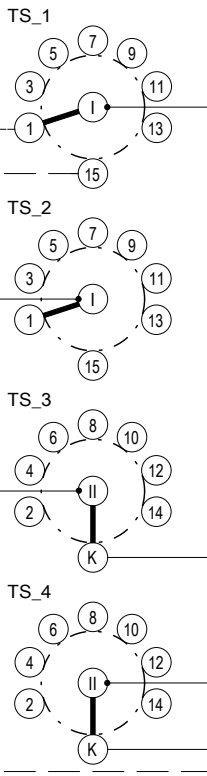
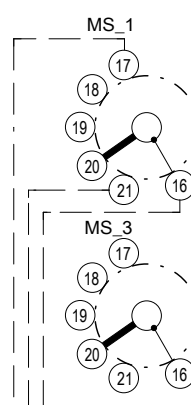
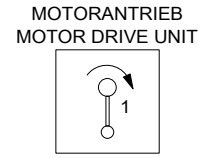
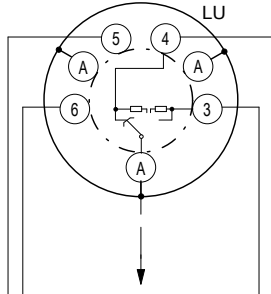
SCHALTBILD
 CONNECTION DIAGRAM

LANGUAGE:
 DE
 EN

PROJECT:
 2414631_01

FÜR DIESE TECHNISCHE UNTERLAGE BEHALTEN WIR UNS GEMÄSS DIN 34 ABSCHNITT 2.1 UND 2.2 ALLE RECHTE VOR.
 DRAWING BY CAD DO NOT MODIFY MANUALLY

- MR VERBINDUNGEN
MR CONNECTIONS
- - - KUNDEN VERBINDUNGEN
CUSTOMER CONNECTIONS
- TS_1 - TS_4 WÄHLEREbenen
TAP SELECTOR PLANES
- MS_1 - MS_4 MEHRFACHGROBWÄHLER
MULTIPLE COARSE TAP SELECTOR
- TW_0 TRAFOWICKLUNG
TRANSFORMER WINDING
- TW_1 STUFENWICKLUNG
TAP WINDING
- LU LASTUMSCHALTER
DIVERTER SWITCH



79	15	79
78	14	78
77	13	77
76	12	76
75	11	75
74	10	74
73	9	73
72	8	72
71	7	71
70	6	70
69	5	69
68	4	68
67	3	67
66	2	66
65	1	65
64	K	64
63	15	63
62	14	62
61	13	61
60	12	60
59	11	59
58	10	58
57	9	57
56	8	56
55	7	55
54	6	54
53	5	53
52	4	52
51	3	51
50	2	50
49	1	49
48	K	48
47	15	47
46	14	46
45	13	45
44	12	44
43	11	43
42	10	42
41	9	41
40	8	40
39	7	39
38	6	38
37	5	37
36	4	36
35	3	35
34	2	34
33	1	33
32	K	32
31	15	31
30	14	30
29	13	29
28	12	28
27	11	27
26	10	26
25	9	25
24	8	24
23	7	23
22	6	22
21	5	21
20	4	20
19	3	19
18	2	18
17	1	17
16	K	16
15	15	15
14	14	14
13	13	13
12	12	12
11	11	11
10	10	10
9	9	9
8	8	8
7	7	7
6	6	6
5	5	5
4	4	4
3	3	3
2	2	2
1	1	1

ACHTUNG
PARALLELBÜCKEN VON MR NICHT ANGEBAUT
VON TS_1 NACH TS_2
VON TS_3 NACH TS_4
VON MS_1 NACH MS_3
VON MS_2 NACH MS_4

ATTENTION !
PARALLEL BRIDGES ARE NOT INSTALLED BY MR
FROM TS_1 TO TS_2
FROM TS_3 TO TS_4
FROM MS_1 TO MS_3
FROM MS_2 TO MS_4

BETRIEBSSTELLUNGEN SERVICE POSITIONS	79
VERSCHIEDENE SPANNUNGEN DIFFERENT VOLTAGES	79
JUSTIERSTELLUNG ADJUSTMENT POSITION	16

ANTRIEBSSEITE DRIVE SIDE	(M)
STELLUNG DES GROBWÄHLERS POSITION OF COARSE TAP SELECTOR	K
BETRIEBSSTELLUNG SERVICE POSITION	15
BEZEICHNUNG DER WÄHLERKONTAKTE DESIGNATION OF TAP SELECTOR CONTACTS	15
BEZEICHNUNG DER STELLUNGEN DESIGNATION OF POSITIONS	15

LASTSTUFENSCHALTER VACUTAP® VM I 802-123/C-16 79 1G
ON-LOAD TAP-CHANGER

NO.	MODIFICATION	DATE	NAME

ORIGIN	REPL.	REPL BY

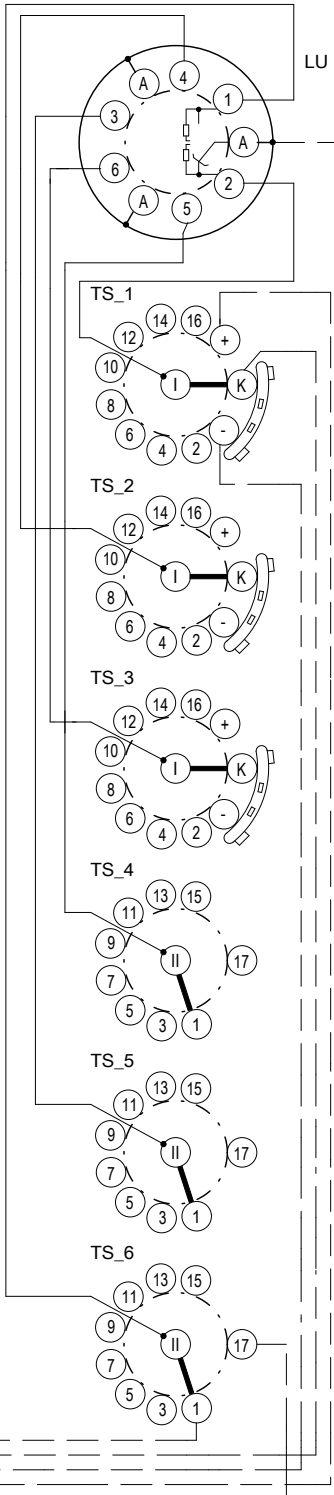
DATE	07.08.2018
ERIC	KONFIG
VERIFIED	CSO
STANDARD	

SCHALTBILD
CONNECTION DIAGRAM

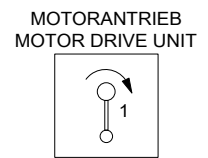
LANGUAGE:	DE
EN	
PROJECT:	2407535_01

ACHTUNG
 PARALLELBRÜCKEN VON MR NICHT ANGEBAUT
 VON TS_1 (PS_1) NACH TS_2 (PS_2) NACH TS_3 (PS_3)
 VON TS_4 NACH TS_5 NACH TS_6

ATTENTION !
 PARALLEL BRIDGES ARE NOT INSTALLED BY MR
 FROM TS_1 (PS_1) TO TS_2 (PS_2) TO TS_3 (PS_3)
 FROM TS_4 TO TS_5 TO TS_6



- MR VERBINDUNGEN
MR CONNECTIONS
- KUNDEN VERBINDUNGEN
CUSTOMER CONNECTIONS
- TS_1 WÄHLEREbene
TAP SELECTOR PLANE
- TS_2 WÄHLEREbene
TAP SELECTOR PLANE
- TS_3 WÄHLEREbene
TAP SELECTOR PLANE
- TS_4 WÄHLEREbene
TAP SELECTOR PLANE
- TS_5 WÄHLEREbene
TAP SELECTOR PLANE
- TS_6 WÄHLEREbene
TAP SELECTOR PLANE
- PS_1 WENDER
REVERSING CHANGE-OVER SELECTOR
- PS_2 WENDER
REVERSING CHANGE-OVER SELECTOR
- PS_3 WENDER
REVERSING CHANGE-OVER SELECTOR
- TW_0 TRAFOWICKLUNG
TRANSFORMER WINDING
- TW_1 STUFENWICKLUNG
TAP WINDING
- LU LASTUMSCHALTER
DIVERTER SWITCH



35	17	35
34	16	34
33	15	33
32	14	32
31	13	31
30	12	30
29	11	29
28	10	28
27	9	27
26	8	26
25	7	25
24	6	24
23	5	23
22	4	22
21	3	21
20	2	20
19	1	19
18	K	18
17	17	17
16	16	16
15	15	15
14	14	14
13	13	13
12	12	12
11	11	11
10	10	10
9	9	9
8	8	8
7	7	7
6	6	6
5	5	5
4	4	4
3	3	3
2	2	2
1	1	1

(M) ANTRIEBSSEITE
DRIVE SIDE

STELLUNG DES WENDERS
POSITION OF REVERSING CHANGE-OVER SELECTOR

BETRIEBSSTELLUNG
SERVICE POSITION

BEZEICHNUNG DER WÄHLERKONTAKTE
DESIGNATION OF TAP SELECTOR CONTACTS

BEZEICHNUNG DER STELLUNGEN
DESIGNATION OF POSITIONS

REGELBEREICH (kV)
REGULATION RANGE (kV)

BETRIEBSSTELLUNGEN SERVICE POSITIONS	35
VERSCHIEDENE SPANNUNGEN DIFFERENT VOLTAGES	35
JUSTIERSTELLUNG ADJUSTMENT POSITION	18

LASTSTUFENSCHALTER VACUTAP® VM I 1203-123/C-18 35 1W
ON-LOAD TAP-CHANGER

NO.	MODIFICATION	DATE	NAME



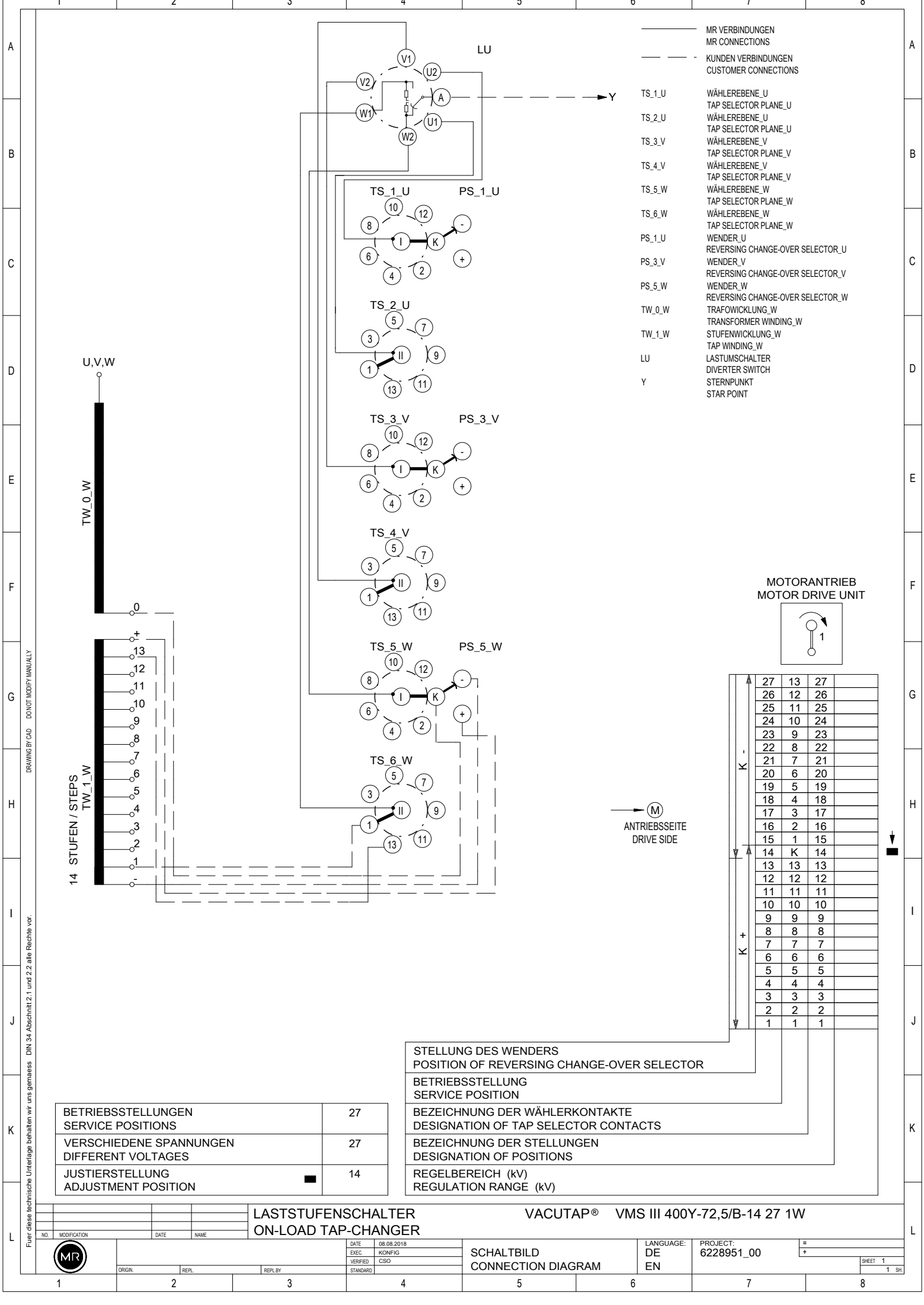
DATE	07.08.2018
EXEC.	KONFIG
VERIFIED	CSO
STANDARD	

SCHALTBILD
CONNECTION DIAGRAM

LANGUAGE:
DE
EN

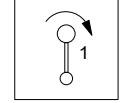
PROJECT:
2414636_01

DRAWING BY CAD DO NOT MODIFY MANUALLY
 Für diese technische Unterlage behalten wir uns gemäss DIN 34 Abschnitt 2.1 und 2.2 alle Rechte vor.



- MR VERBINDUNGEN
MR CONNECTIONS
- KUNDEN VERBINDUNGEN
CUSTOMER CONNECTIONS
- TS_1_U WÄHLEREbene_U
TAP SELECTOR PLANE_U
- TS_2_U WÄHLEREbene_U
TAP SELECTOR PLANE_U
- TS_3_V WÄHLEREbene_V
TAP SELECTOR PLANE_V
- TS_4_V WÄHLEREbene_V
TAP SELECTOR PLANE_V
- TS_5_W WÄHLEREbene_W
TAP SELECTOR PLANE_W
- TS_6_W WÄHLEREbene_W
TAP SELECTOR PLANE_W
- PS_1_U WENDER_U
REVERSING CHANGE-OVER SELECTOR_U
- PS_3_V WENDER_V
REVERSING CHANGE-OVER SELECTOR_V
- PS_5_W WENDER_W
REVERSING CHANGE-OVER SELECTOR_W
- TW_0_W TRAFOWICKLUNG_W
TRANSFORMER WINDING_W
- TW_1_W STUFENWICKLUNG_W
TAP WINDING_W
- LU LASTUMSCHALTER
DIVERTER SWITCH
- Y STERNPUNKT
STAR POINT

**MOTORANTRIEB
MOTOR DRIVE UNIT**



27	13	27	
26	12	26	
25	11	25	
24	10	24	
23	9	23	
22	8	22	
21	7	21	
20	6	20	
19	5	19	
18	4	18	
17	3	17	
16	2	16	
15	1	15	
14	K	14	
13	13	13	
12	12	12	
11	11	11	
10	10	10	
9	9	9	
8	8	8	
7	7	7	
6	6	6	
5	5	5	
4	4	4	
3	3	3	
2	2	2	
1	1	1	

→ (M)
ANTRIEBSSEITE
DRIVE SIDE

STELLUNG DES WENDERS
POSITION OF REVERSING CHANGE-OVER SELECTOR

BETRIEBSSTELLUNG
SERVICE POSITION

BEZEICHNUNG DER WÄHLERKONTAKTE
DESIGNATION OF TAP SELECTOR CONTACTS

BEZEICHNUNG DER STELLUNGEN
DESIGNATION OF POSITIONS

REGELBEREICH (kV)
REGULATION RANGE (kV)

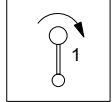
BETRIEBSSTELLUNGEN SERVICE POSITIONS	27
VERSCHIEDENE SPANNUNGEN DIFFERENT VOLTAGES	27
JUSTIERSTELLUNG ADJUSTMENT POSITION	14

LASTSTUFENSCHALTER VACUTAP® VMS III 400Y-72,5/B-14 27 1W
ON-LOAD TAP-CHANGER

FÜR DIESE TECHNISCHE UNTERLAGE BEHALTEN WIR UNS GEMÄSS DIN 34 ABSCHNITT 2.1 UND 2.2 ALLE RECHTE VOR.
 DRAWING BY CAD DO NOT MODIFY MANUALLY

- MR VERBINDUNGEN
MR CONNECTIONS
- KUNDEN VERBINDUNGEN
CUSTOMER CONNECTIONS
- TS_1 WÄHLEREbene
TAP SELECTOR PLANE
- TS_2 WÄHLEREbene
TAP SELECTOR PLANE
- TS_3 WÄHLEREbene
TAP SELECTOR PLANE
- TS_4 WÄHLEREbene
TAP SELECTOR PLANE
- TS_5 WÄHLEREbene
TAP SELECTOR PLANE
- TS_6 WÄHLEREbene
TAP SELECTOR PLANE
- PS_2 WENDER
REVERSING CHANGE-OVER SELECTOR
- PS_4 WENDER
REVERSING CHANGE-OVER SELECTOR
- PS_6 WENDER
REVERSING CHANGE-OVER SELECTOR
- TW_0 TRAFOWICKLUNG
TRANSFORMER WINDING
- TW_1 STUFENWICKLUNG
TAP WINDING
- LU LASTUMSCHALTER
DIVERTER SWITCH
- Y STERNPUNKT
STAR POINT

MOTORANTRIEB
MOTOR DRIVE UNIT



35	17	35
34	16	34
33	15	33
32	14	32
31	13	31
30	12	30
29	11	29
28	10	28
27	9	27
26	8	26
25	7	25
24	6	24
23	5	23
22	4	22
21	3	21
20	2	20
19	1	19
18	K	18
17	17	17
16	16	16
15	15	15
14	14	14
13	13	13
12	12	12
11	11	11
10	10	10
9	9	9
8	8	8
7	7	7
6	6	6
5	5	5
4	4	4
3	3	3
2	2	2
1	1	1

(M)
ANTRIEBSSEITE
DRIVE SIDE

STELLUNG DES WENDERS
POSITION OF REVERSING CHANGE-OVER SELECTOR

BETRIEBSSTELLUNG
SERVICE POSITION

BEZEICHNUNG DER WÄHLERKONTAKTE
DESIGNATION OF TAP SELECTOR CONTACTS

BEZEICHNUNG DER STELLUNGEN
DESIGNATION OF POSITIONS

REGELBEREICH (kV)
REGULATION RANGE (kV)

BETRIEBSSTELLUNGEN SERVICE POSITIONS	35
VERSCHIEDENE SPANNUNGEN DIFFERENT VOLTAGES	35
JUSTIERSTELLUNG ADJUSTMENT POSITION	18

LASTSTUFENSCHALTER VACUTAP® VMS III 400Y-123/C-18 35 1W
ON-LOAD TAP-CHANGER

FÜR DIESE TECHNISCHE UNTERLAGE BEHALTEN WIR UNS GEMÄSS DIN 34 ABSCHNITT 2.1 UND 2.2 ALLE RECHTE VOR.

DRAWING BY CAD DO NOT MODIFY MANUALLY

MR	DATE	08.08.2018	SCHALTBILD CONNECTION DIAGRAM	LANGUAGE:	DE	PROJECT: 6228952_00	=
	DESIGNED	KONFIG		EN	+		
ORIGIN	REPL	REPL BY	STANDARD			SHEET 1	
1	2	3	4	5	6	7	8

Maschinenfabrik Reinhausen GmbH

Falkensteinstrasse 8
93059 Regensburg
Germany
+49 941 4090-0
info@reinhausen.com
[reinhausen.com](https://www.reinhausen.com)

Please note:
The data in our publications may differ from the data of the devices delivered.
We reserve the right to make changes without notice.
2332907/06 ZH - VACUTAP® VM®, VM 300, VMS® 技术数据 -
F0249006 - 07/23
MR 公司 2023

THE POWER BEHIND POWER.