



Torsion V-Plow



Operating Instructions Part 2

Version: 0
Language: ENG
M3177EUK-01/21

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1 General



NOTE

Before starting work on the cleaner or the conveyor, part 1 and 2 of these operating instructions must be read and understood completely

1.1 About these operating instructions

These operating instructions apply solely for cleaners and are intended for those persons who install cleaners, commission them, and monitor their usage. The operating instructions must be kept for the lifetime of the cleaners and must be made available in an orderly condition to all persons entrusted with work with and on the cleaners.

1.2 Accompanying Documents

Part 1 of the operating instructions, which is provided separately, is an integral part of these operating instructions.

1.3 Part number

28488 – AA BB +E

Belt width in inches _____

Blade type R / U _____

1.4 Technical Data

The cleaner is suitable for the following operating parameters:

	Operating parameter
Belt widths:	500 – 3.000 mm
Belt speed:	Max. 4,6 m/s
Temperature range:	-30 – 70 °C
Reversing operation:	No

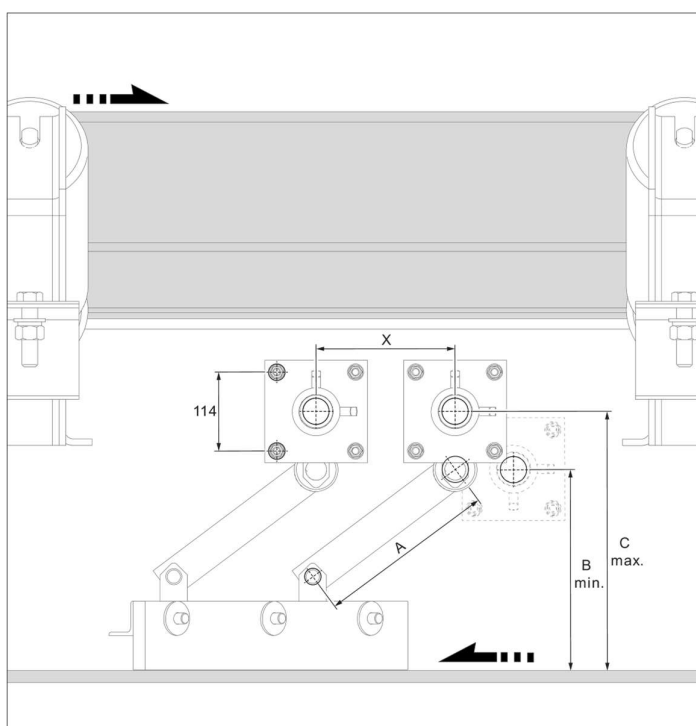
2 Installation



NOTE

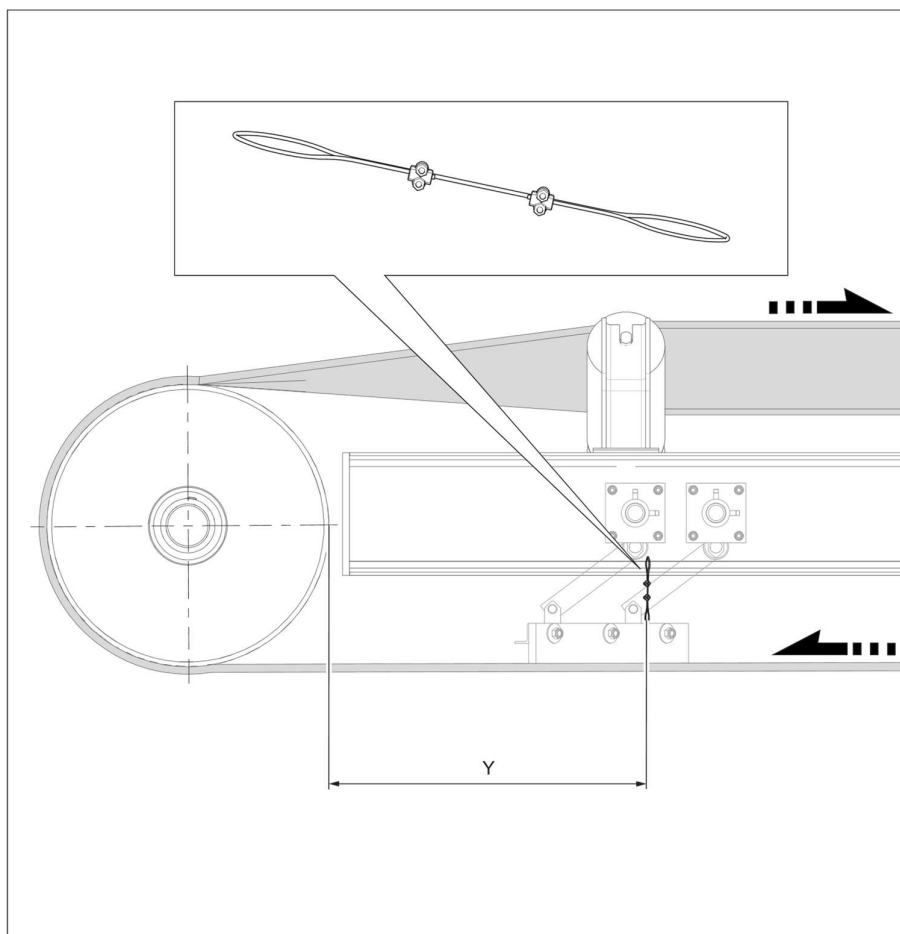
For a general description of cleaner installation, refer to Part 1 of the operator's manual.

2.1 Determining the installation position



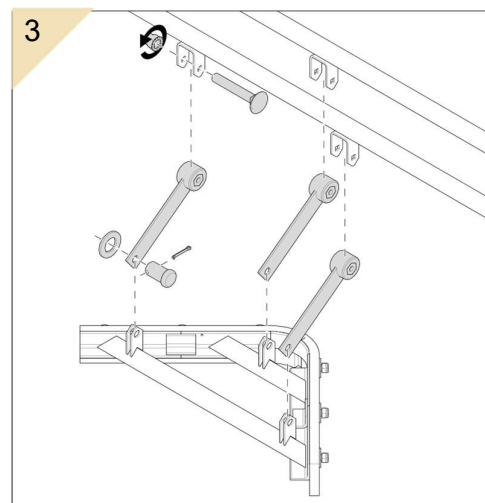
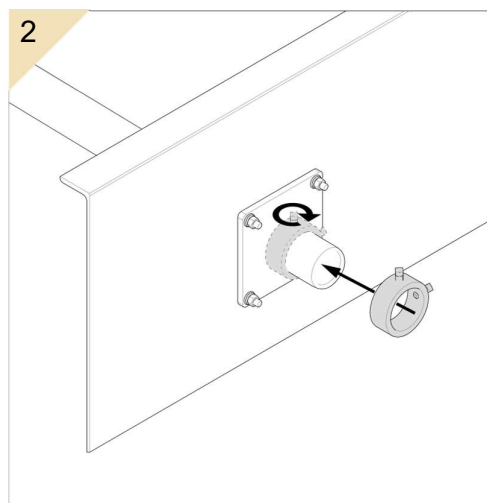
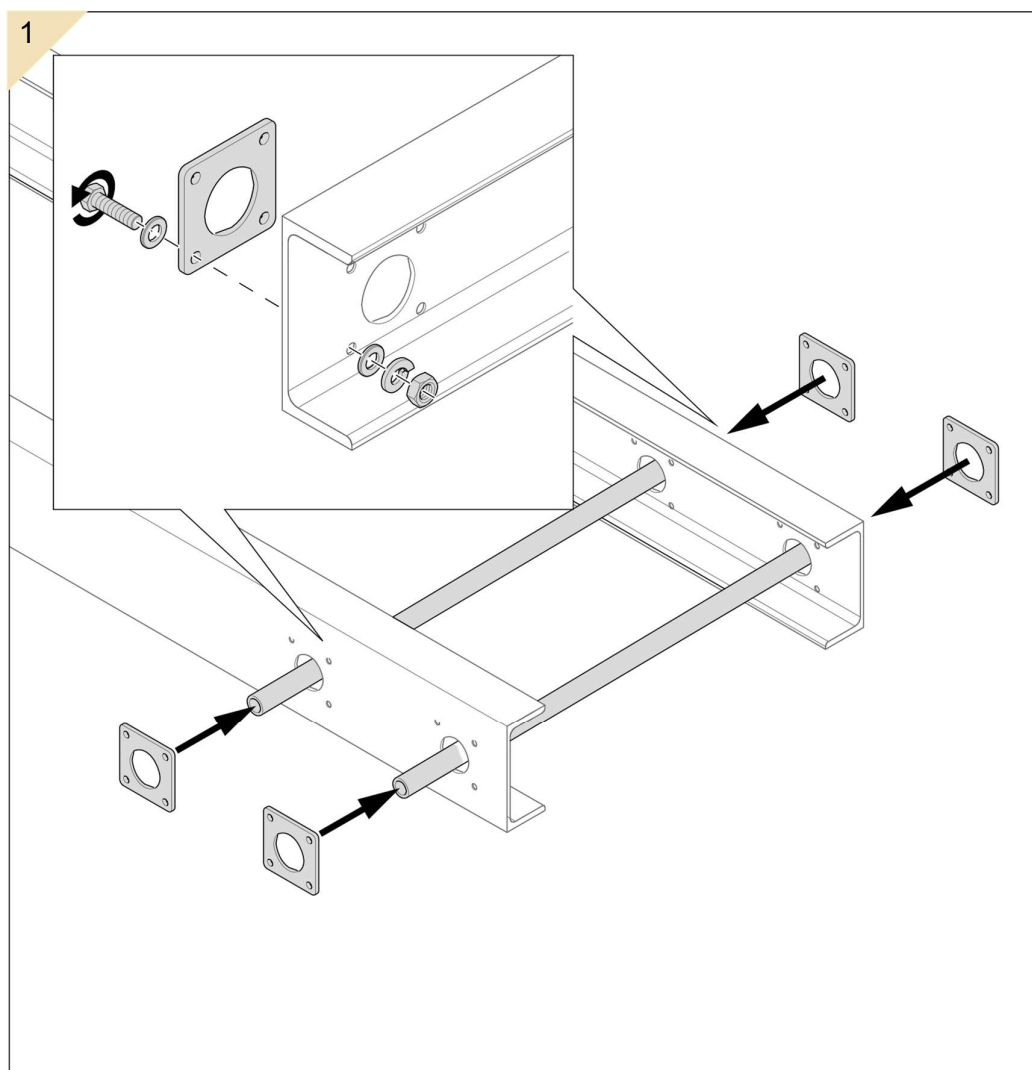
Torsion Arm Part-Number	Length in mm		
	A	B min.	C max.
28495-01	260	332	417
28495-02	152	226	310
28495-03	64	138	222
28495-04	127	201	286
28495-05	165	240	323
28495-06	203	276	360
28495-07	83	157	314
28495-08	289	360	445
28495-09	229	301	386

Part-Number	Length in mm
	X
28488-18XX	79
28488-24XX	165
28488-30XX	203
28488-36XX	279
28488-42XX	356
28488-48XX	432
28488-54XX	508
28488-60XX	584
28488-72XX	737
28488-84XX	889
28488-96XX	1041

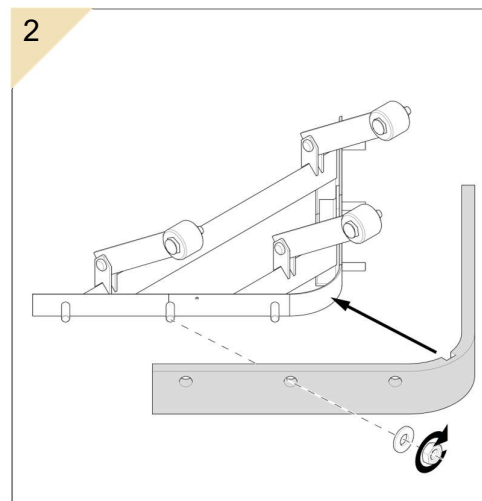
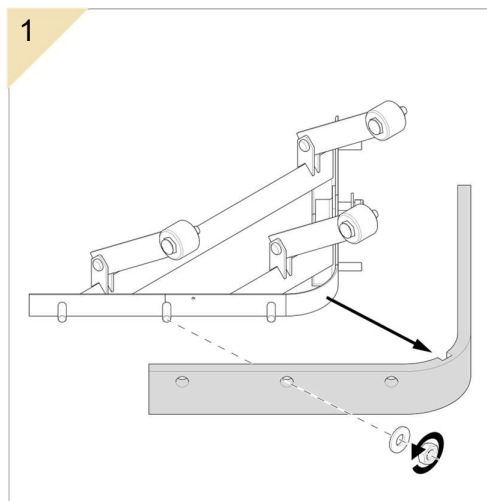


Assembly unit Part-Number	Length in mm Y
28488-18XX	787
28488-24XX	987
28488-30XX	1073
28488-36XX	1181
28488-42XX	1289
28488-48XX	1397
28488-54XX	1502
28488-60XX	1607
28488-72XX	1829
28488-84XX	2045
28488-96XX	2261

2.2 Mounting the tensioner



2.3 Replace blades



2.4 Placing labels

2.4.1 Safety label

The safety label below must be attached to the conveyor system in the immediate vicinity of the cleaner:



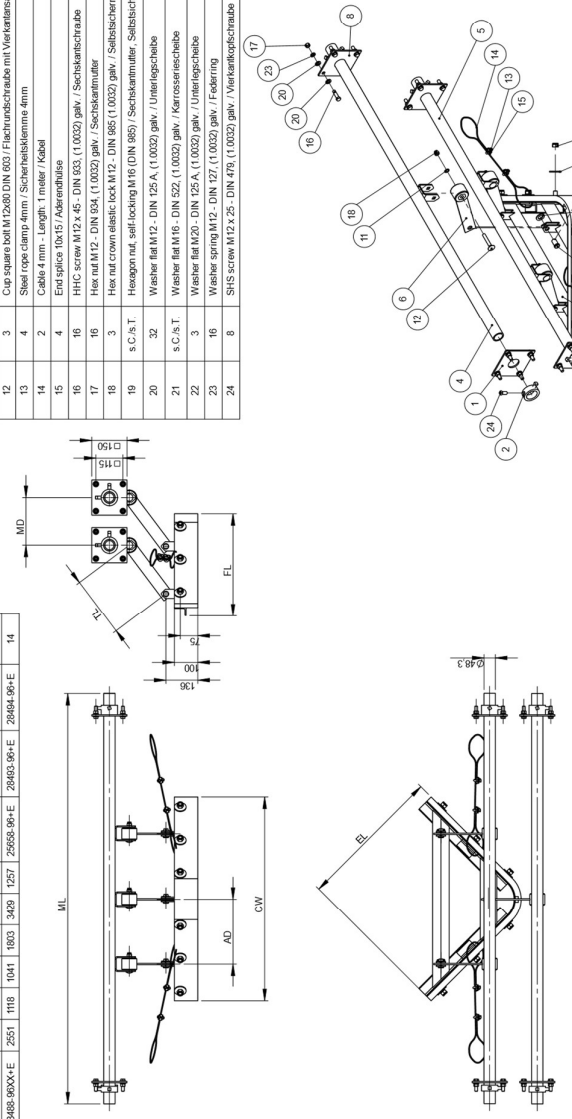
2.4.2 Other labels

The labels below are attached to the product:

1. Sticker showing the address of the Martin Engineering branch and the designation of the product
2. A sticker containing the tension values for the respective tensioner

3 Scope of delivery and spare parts

Part number / Teilenummer	DIM			PIN Item / Teile-Nr. Pos.			Qty Item / Anz. Pos.	Item / Pos.	Description	PIN / Teile-Nr.	
	CW	AD	MD	EL	WL	FL					
28488-2XXX-E	735	245	195	521	1524	352	25658-24+E	28494-24+E	2	Flange mounting plate / Montageplatte	1829+E
28488-30XX-E	872	279	203	616	1727	418	25658-30+E	28494-30+E	4	Locking collar / Sicherungsring	1826+E
28488-30XX-E	1024	336	279	724	1727	494	25658-36+E	28494-36+E	3	Locking collar / Sicherungsring	1826+E
28488-42XX-E	1176	432	356	832	2033	572	25658-42+E	28494-42+E	6	Flange mounting plate / Montageplatte	s.c./s.T.
28488-42XX-E	1332	508	432	940	2033	648	25658-48+E	28494-48+E	6	Torsion Arm V-Flow back axle / Hinterradarm	s.c./s.T.
28488-50XX-E	1478	508	508	1070	2231	721	25658-54+E	28494-54+E	8	Torsion Arm V-Flow torsion arm / Torsionsarm	s.c./s.T.
28488-50XX-E	1624	600	594	1149	2438	794	25658-54+E	28494-54+E	8	Torsion Arm V-Flow hub mount / Rohrflech	2822+E
28488-60XX-E	1783	727	690	1238	2521	873	25658-60+E	28494-60+E	8	Torsion Arm V-Flow hub mount / Rohrflech	18578
28488-60XX-E	1942	813	737	1372	2724	953	25658-66+E	28494-66+E	8	Collar pin 18" x 1.314" / Splint	20068
28488-72XX-E	2246	965	889	1538	3088	1105	25658-84+E	28494-84+E	10	Pin Clevis 3/4 x 1.142" / Bolzen mit Kopf - vierzink	21569
28488-84XX-E	2551	1118	1041	1803	3429	1257	25658-96+E	28494-96+E	12	Strutted washer 127 M120 / Federstrebe	32138-01+E
28488-90XX-E	2551	1118	1041	1803	3429	1257	25658-96+E	28494-96+E	14	Cap stand bolt M12x80 DIN 603 / Flachrundschraube mit Vierkantkopf	40238
28488-90XX-E	2551	1118	1041	1803	3429	1257	25658-96+E	28494-96+E	14	Steel rope clamp arm / Sechseckklemmschraube	40377
28488-90XX-E	2551	1118	1041	1803	3429	1257	25658-96+E	28494-96+E	14	End splice 10x15 / Adrenahülse	40377-1015
28488-90XX-E	2551	1118	1041	1803	3429	1257	25658-96+E	28494-96+E	14	HHC screw M12 x 45 - DIN 933, (1.0032) galv. / Sechskantschraube	4081-12048Z/988
28488-90XX-E	2551	1118	1041	1803	3429	1257	25658-96+E	28494-96+E	14	Hex nut M12 - DIN 934, (1.0032) galv. / Sechskannmutter	41085-128ZP
28488-90XX-E	2551	1118	1041	1803	3429	1257	25658-96+E	28494-96+E	14	Hex nut crown elastic lock M12 - DIN 985 (1.0032) galv. / Selbstsichernde Sechskannmutter	41085-18ZCP
28488-90XX-E	2551	1118	1041	1803	3429	1257	25658-96+E	28494-96+E	14	Washer nut self-locking M18 (DIN 985) / Sechskannmutter, Selbstsichernd	41085-18ZCP
28488-90XX-E	2551	1118	1041	1803	3429	1257	25658-96+E	28494-96+E	14	Washer flat M12 - DIN 125 A, (1.0032) galv. / Unterlegscheibe	41088-12AZP
28488-90XX-E	2551	1118	1041	1803	3429	1257	25658-96+E	28494-96+E	14	Washer flat M16 - DIN 522, (1.0032) galv. / Kerrosscheibe	41088-16ZCP
28488-90XX-E	2551	1118	1041	1803	3429	1257	25658-96+E	28494-96+E	14	Washer flat M20 - DIN 125 A, (1.0032) galv. / Unterlegscheibe	41088-20AZP
28488-90XX-E	2551	1118	1041	1803	3429	1257	25658-96+E	28494-96+E	14	Washer spring M12 - DIN 127, (1.0032) galv. / Federling	41090-12AZP
28488-90XX-E	2551	1118	1041	1803	3429	1257	25658-96+E	28494-96+E	14	SFS screw M12 x 25 - DIN 479, (1.0032) galv. / Vierkantkopfschraube	41444-1225ZCP



Part number / Teilenummer	Material	Part number / Teilenummer	Material
28488-30XX-E	Aluminum	28488-30XX-E	Aluminum
28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Teilenummer	Material	Part number / Teilenummer	Material
28488-30XX-E	Aluminum	28488-30XX-E	Aluminum
28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Teilenummer	Material	Part number / Teilenummer	Material
28488-30XX-E	Aluminum	28488-30XX-E	Aluminum
28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Teilenummer	Material	Part number / Teilenummer	Material
28488-30XX-E	Aluminum	28488-30XX-E	Aluminum
28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

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28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Teilenummer	Material	Part number / Teilenummer	Material
28488-30XX-E	Aluminum	28488-30XX-E	Aluminum
28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Teilenummer	Material	Part number / Teilenummer	Material
28488-30XX-E	Aluminum	28488-30XX-E	Aluminum
28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Teilenummer	Material	Part number / Teilenummer	Material
28488-30XX-E	Aluminum	28488-30XX-E	Aluminum
28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Teilenummer	Material	Part number / Teilenummer	Material
28488-30XX-E	Aluminum	28488-30XX-E	Aluminum
28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Teilenummer	Material	Part number / Teilenummer	Material
28488-30XX-E	Aluminum	28488-30XX-E	Aluminum
28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Teilenummer	Material	Part number / Teilenummer	Material
28488-30XX-E	Aluminum	28488-30XX-E	Aluminum
28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Teilenummer	Material	Part number / Teilenummer	Material
28488-30XX-E	Aluminum	28488-30XX-E	Aluminum
28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Teilenummer	Material	Part number / Teilenummer	Material
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28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Teilenummer	Material	Part number / Teilenummer	Material
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28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

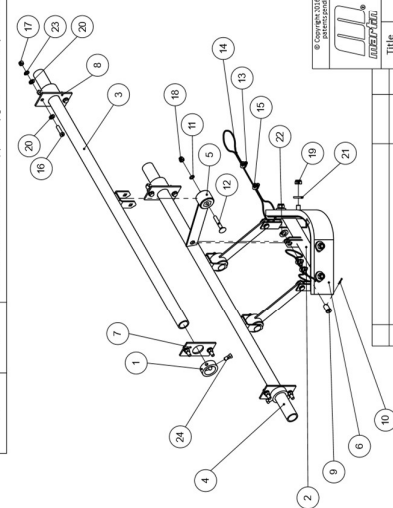
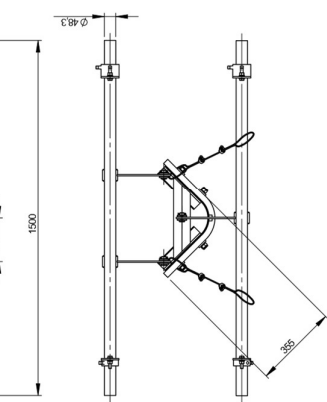
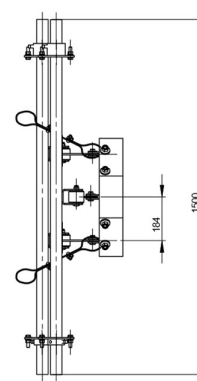
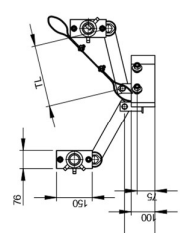
Part number / Teilenummer	Material	Part number / Teilenummer	Material
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28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Teilenummer	Material	Part number / Teilenummer	Material
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28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

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28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Teilenummer	Material	Part number / Teilenummer	Material
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28488-42XX-E	Aluminum	28488-42XX-E	Aluminum
28488-50XX-E	Aluminum	28488-50XX-E	Aluminum
28488-60XX-E	Aluminum	28488-60XX-E	Aluminum
28488-72XX-E	Aluminum	28488-72XX-E	Aluminum
28488-84XX-E	Aluminum	28488-84XX-E	Aluminum
28488-90XX-E	Aluminum	28488-90XX-E	Aluminum

Part number / Referenzziffer	DM	PN Item Teile-Nr. Pos.	Part number / Referenzziffer	Blattwerkstoff / Blade material	PN Item Teile-Nr. Pos.	Item / Pos.	Qty / Anz.	Description / Beschreibung	PN / Teile-Nr.
28485-18X+E	280	28485-01+E	28485-18X+E	Rubber / Gummi	6	1	2	Locking collar / Sicherungsring	18845-E
28485-18X1+E	64	28485-03+E	28485-18X1+E	Urethane / Urethan	6	2	1	Schweißarmen V-Flow	29593-18+E
28485-18X2+E	152	28485-02+E	28485-18X2+E	Urethane / Urethan	6	3	1	Rohr DIN 10220 - 048,3x5 - S235JR	28493-18+E
28485-18X3+E	228	28485-00+E	28485-18X3+E	Urethane / Urethan	6	4	1	Torsion Arm V-Flow back axle / Hinterradachse	28484-18+E
28485-18X4+E	127	28485-04+E	28485-18X4+E	Urethane / Urethan	6	5	3	Torsion Arm V-Flow Torsionsarm / Torsionsarm	s.c. / s.T.
28485-18X5+E	165	28485-05+E	28485-18X5+E	Urethane / Urethan	6	6	1	Torsion Arm V-Flow blade / Abstreifblatt / Torsion Arm Pflugschleifer	s.c. / s.T.
28485-18X6+E	203	28485-00+E	28485-18X6+E	Urethane / Urethan	6	7	2	Flange mount plate / Standard V-Flow / Flanschmontageplatte	30208+E
28485-18X7+E	288	28485-08+E	28485-18X7+E	Urethane / Urethan	6	8	2	Mounting plate I-18 torsion arm plow / Montageplatte I-18 Torsion Arm Pflugschleifer	30209+E
						9	3	Pin Clevis 3/4 x 1-1/4 ZP / Bolzen mit Kogel - verzinkt	20095
						10	3	Collar pin 1/8" x 1-3/4" / Splint	16578
						11	3	Serrated washer 1/2" (M12) / Ficherscheibe	21959
						12	3	Cup square bolt M12x80 DIN 933 / Flachhauptschraube mit Vierkantansatz	32139-01+E
						13	4	Steel rope clamp 4mm / Sicherungsklemme 4mm	40228
						14	2	Cable 4 mm - Length: 1 meter / Kabel	40377
						15	4	End splion 10x15 / Ankerstülpe	40377-015
						16	8	HHCS screw M12 x 45 - DIN 933, (1.0032) galv. / Sechskantschraube	41081-1204502P88
						17	8	Hex nut M12 - DIN 934, (1.0032) galv. / Sechskantmutter	41096-12BZP
						18	3	Hex nut crown elastic lock M12 - DIN 955 (1.0032) galv. / Selbstsichernde Sechskantmutter	41096-12E2P
						19	4	Hexagon nut, self-locking M16 (DIN 988) / Sechskantmutter, Selbstsichernd	41098-16E2P
						20	16	Washer flat M12 - DIN 125A, (1.0032) galv. / Unterlegscheibe	41098-12A2P
						21	4	Washer flat M16 x 40 x 6 - (DIN 520) galv. steel / Karosierscheibe	41098-16L2P
						22	3	Washer flat M20 - DIN 125A, (1.0032) galv. / Unterlegscheibe	41098-20A2P
						23	8	Washer spring M12 x 25 - DIN 475, (1.0032) galv. / Federring	41090-12A2P
						24	8	SHS screw M12 x 25 - DIN 475, (1.0032) galv. / Vierkantkopfschraube	41444-12025B2P



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 65398 Walsdorf, Germany
 Date: 22.02.2013
 Rev. N. N.
 Page: 1
 Title: Torsionsarm Pflugschleifer
 Drawing No.: 28485-18X0+E

No.	Description	Date	By

Rev.	Scale
1.15	1:1



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