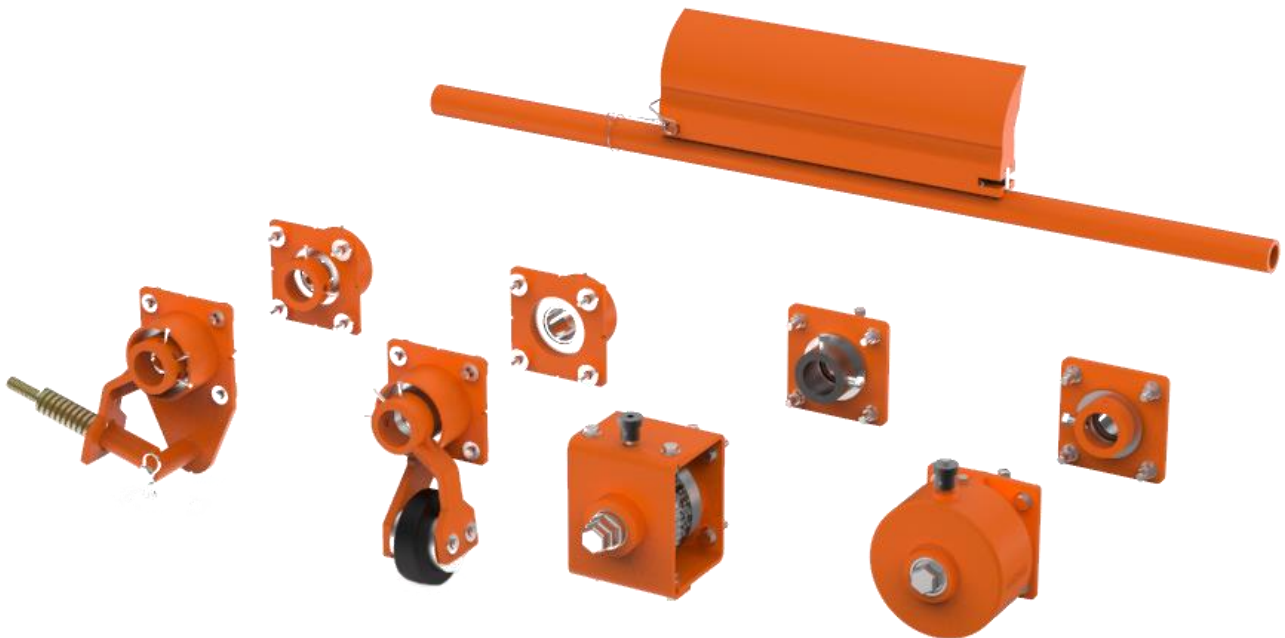




## Pit Viper™ Pre-Cleaner



## Operating Instructions Part 2

Version: 0  
Language: ENG  
M3735EUK-10/20

# Table of Contents

---

<b>1</b>	<b>General .....</b>	<b>2</b>
1.1	About these operating instructions .....	2
1.2	Accompanying Documents .....	2
1.3	Part number .....	3
1.4	Technical Data.....	3
<b>2</b>	<b>Installation .....</b>	<b>4</b>
2.1	Determining the installation position .....	4
2.2	Preparing the cleaner .....	5
2.3	Mounting the tensioner .....	5
2.4	Installing the cleaner.....	6
2.5	Tension values of Twist Tensioners 31443-... and 38850-... .....	6
2.6	Tension values of Spring Tensioner 38180-.....	7
2.7	Tension values of Cable tensioner 37944-.....	7
2.8	Tension values of Air tensioner 32745-.....	8
2.9	Placing labels .....	8
<b>3</b>	<b>Scope of delivery and spare parts .....</b>	<b>9</b>
3.1	Pre.- cleaner .....	9
3.2	Tensioner.....	10

# 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.

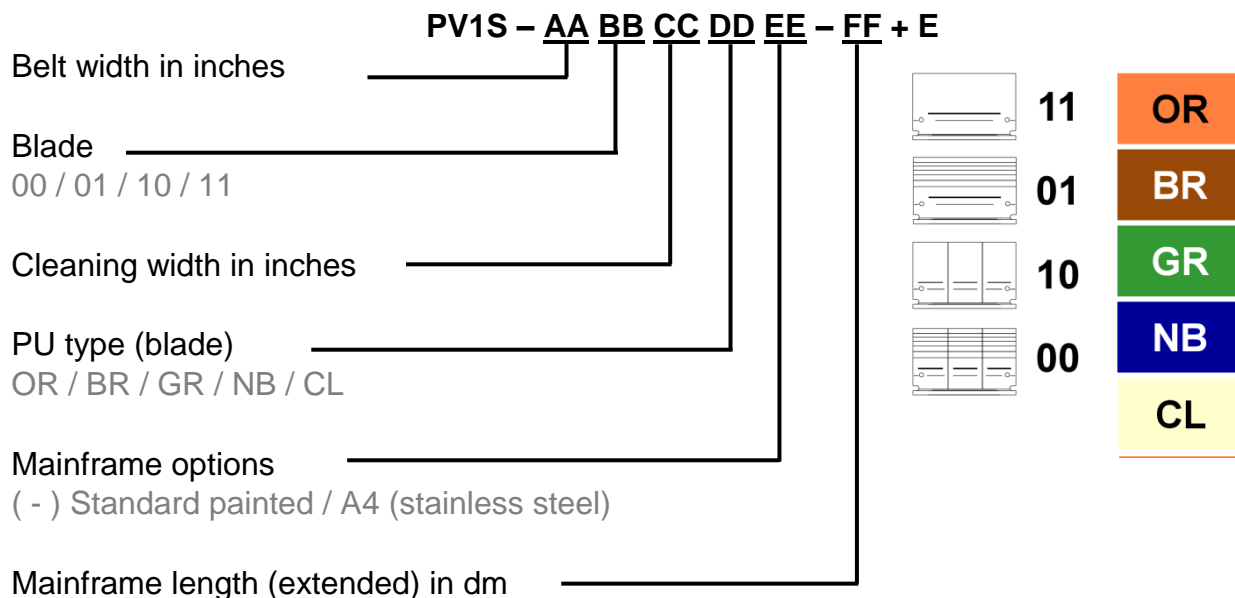
The operating instructions must be kept for the lifetime of the cleaners and must be made available in an orderly condition to all persons entrusted with work with and on the cleaners.

## 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

#### Cleaner



#### Tensioner

- Twist tensioner (round) 38850-...
- Twist tensioner (square) 31443-...+E
- Spring tensioner: 38180-...
- Cable tensioner 37944-...
- Air tensioner: 32745-...+E

### 1.4 Technical Data

The cleaner is suitable for the following operating parameters:

	Operating parameter
Belt widths:	400 – 2.000 mm
Pulley diameter:	200 - 400 mm
Belt speed:	Max. 2,5 m/s
Temperature range:	-40 - 150 °C depending on PU type
Reversing operation:	Possible but has no cleaning effect

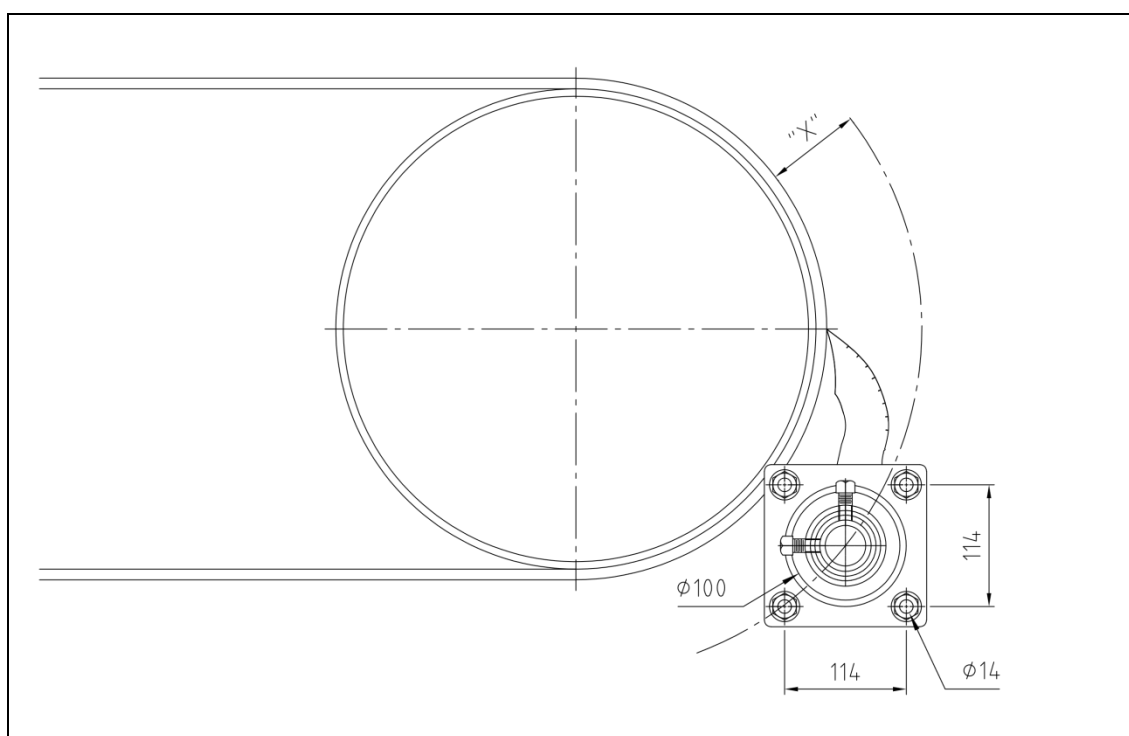
## 2 Installation



### NOTE

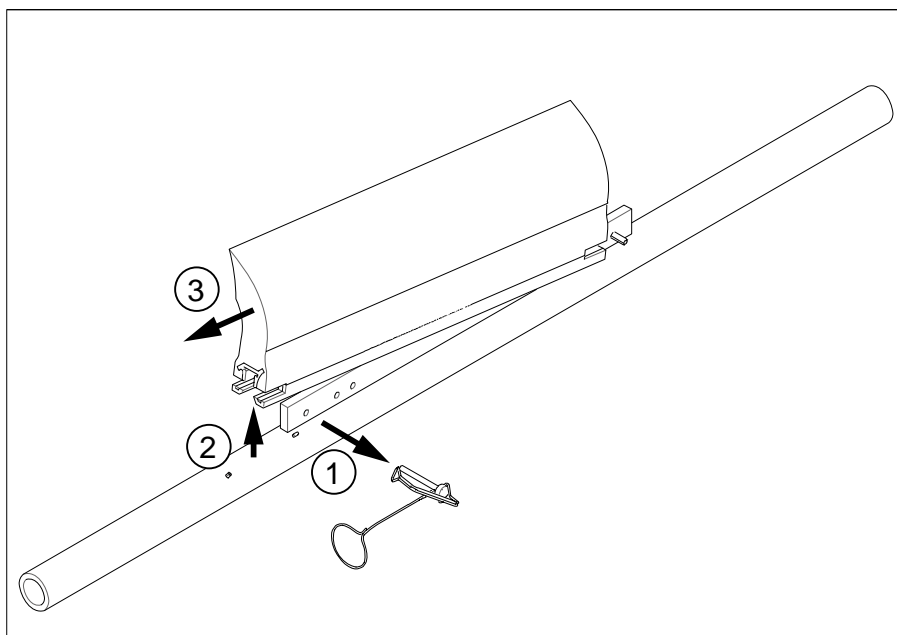
For a general description of cleaner installation, refer to part 1 of these operating instructions.

### 2.1 Determining the installation position

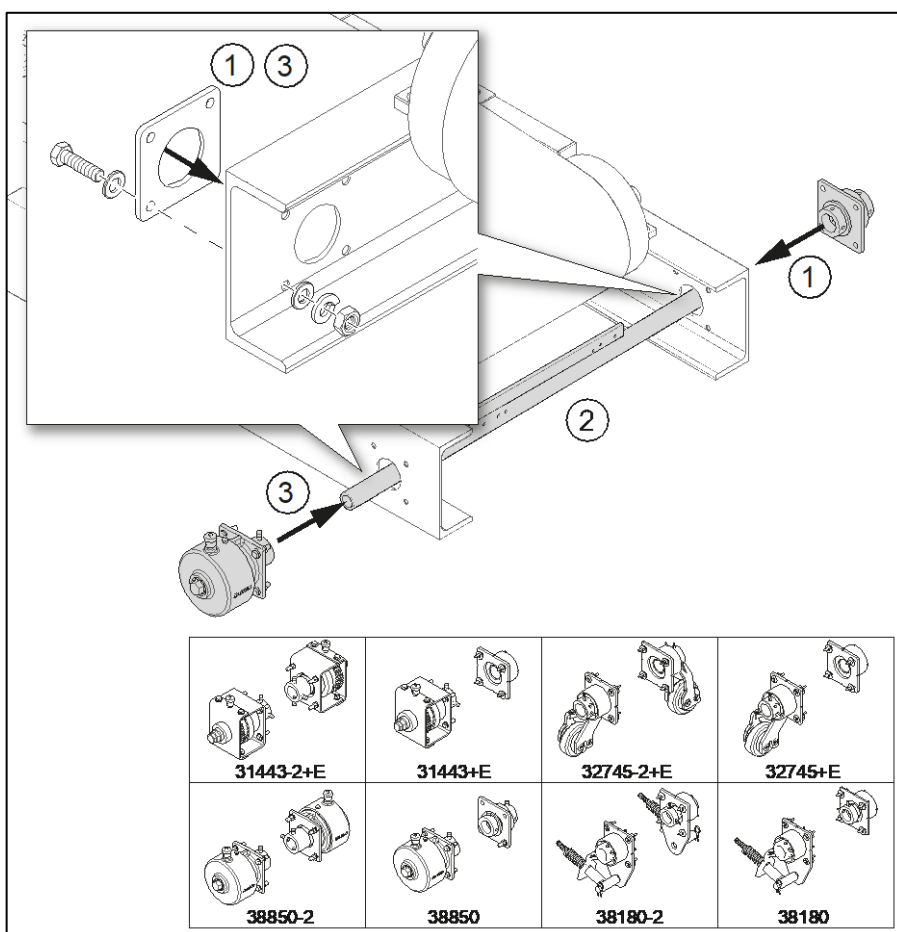


Pulley diameter* in mm	Length x in mm
200 - 400	76
*(Including pulley lining and conveyor belt)	

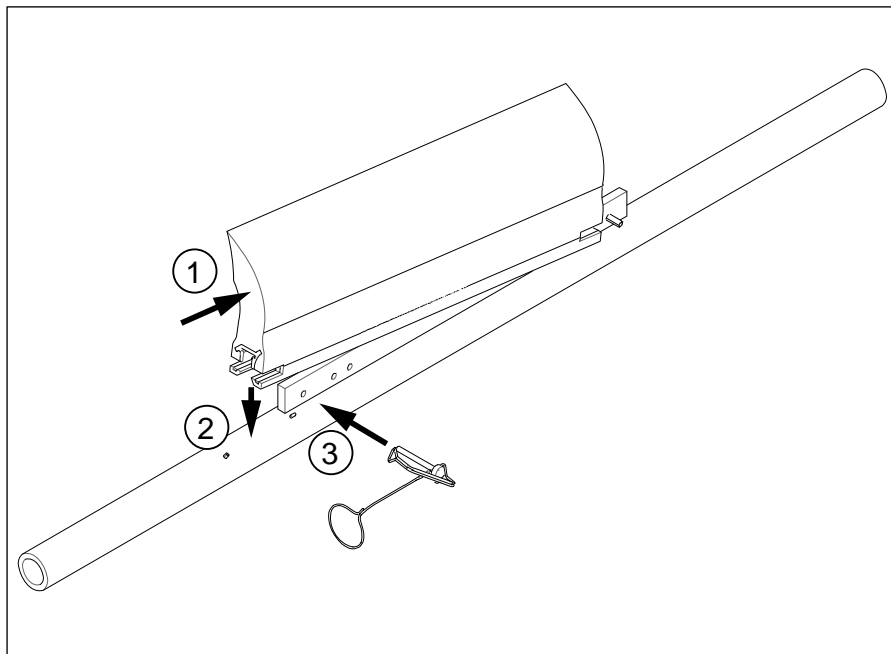
## 2.2 Preparing the cleaner



## 2.3 Mounting the tensioner



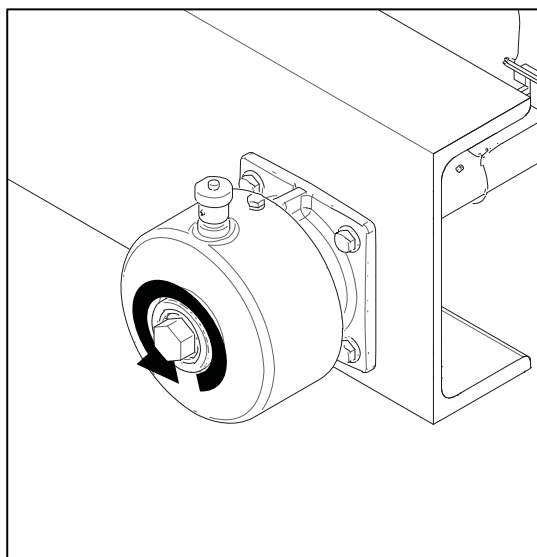
## 2.4 Installing the cleaner



## 2.5 Tension values of Twist Tensioners 31443-... and 38850-...

Belt width		Number of notches (clicks)
in	mm	
18	500	3
24	650	4
30	800	4
36	1000	4
42	1200	5
48	1400	5
54	1600	4*
60	1800	4*
72	2000	5*

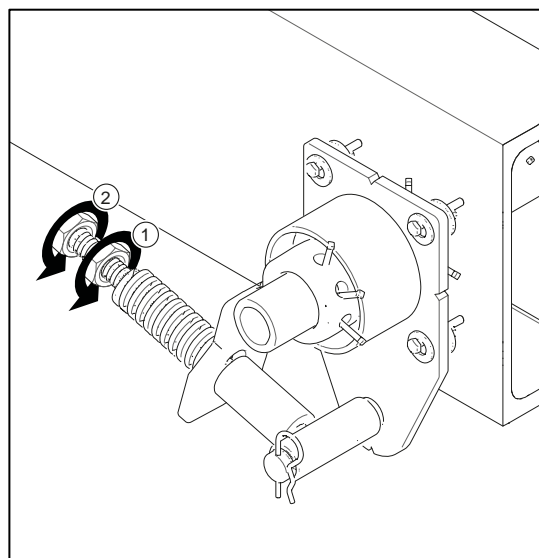
\*Per tensioner;  
Dual tensioners are needed



## 2.6 Tension values of Spring Tensioner 38180-...

Belt width		Compression spring length in mm
in	mm	
18	500	92
24	650	90
30	800	86
36	1000	83
42	1200	79
48	1400	76
54	1600	86*
60	1800	86*
72	2000	83*

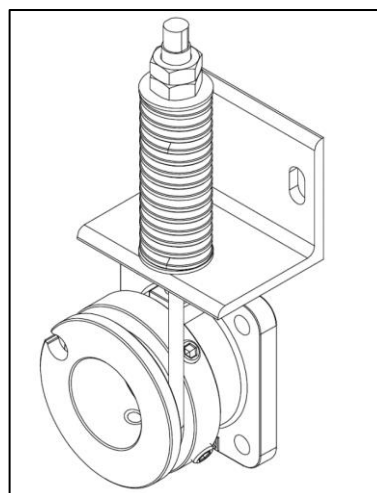
\*Per tensioner;  
Dual tensioners are needed



## 2.7 Tension values of Cable tensioner 37944-...

Belt width		Compression spring length in mm
in	mm	
18	500	83
24	650	79
30	800	76
36	1000	67
42	1200	64
48	1400	57
54	1600	73*
60	1800	70*
72	2000	64*

\*Per tensioner;  
Dual tensioners are needed

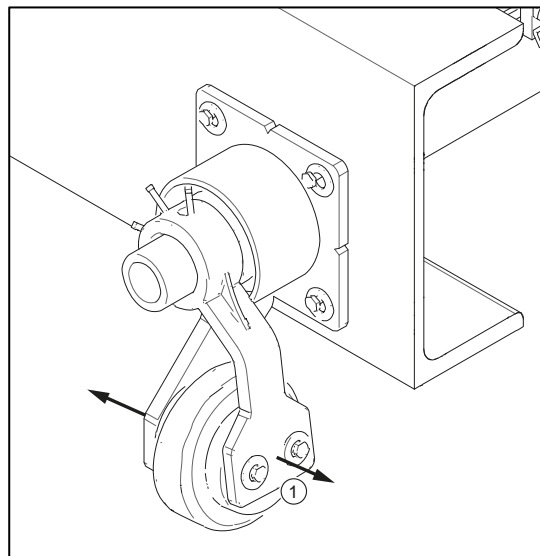




## 2.8 Tension values of Air tensioner 32745-...

Belt width		Compressed air pressure in bar
in	mm	
18	500	0,4
24	650	0,6
30	800	0,8
36	1000	1,0
42	1200	1,2
48	1400	1,4
54	1600	0,8*
60	1800	0,9*
72	2000	1,1*

\*Per tensioner;  
Dual tensioners are needed



## 2.9 Placing labels

### 2.9.1 Safety label

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



### 2.9.2 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

## 3.1 Pre-cleaner

Part number / Teilnummer	DM	ML	RL	Part number / Teilnummer	DM	ML	RL	Description / Beschreibung	Part / Teil-Nr.
PV15-1800-13000-000-00-E	305	1219	-	PV15-1800-1300	1	1300	-	PH Upper blade / Abstreifblatt	S.C. / A.T.
PV15-1800-18000-000-00-E	406	1829	-	PV15-1800-1800	2	1800	-	PH Upper blade / Abstreifblatt	S.C. / A.T.
PV15-2400-18000-000-00-E	487	1932	-	PV15-2400-1800	3	1800	-	Wire sock pin 1/4" x 2-1/2" / Sicherungsbohrer	32772
PV15-2400-24000-000-00-E	569	2134	-	PV15-2400-2400	4	2400	-	Spring pin 8 x 50 mm / Hochspannstift	32774-E
PV15-2400-28000-000-00-E	610	2134	-	PV15-2400-2800	5	2800	-	Coarse 0.7 mm / Grob / Sieb	42181
PV15-2800-28000-000-00-E	711	2531	-	PV15-2800-2800	6	2800	-	Coarse 0.7 mm wire / Siebmasche	42182
PV15-3600-28000-000-00-E	782	2531	-	PV15-3600-2800	7	2800	-	Tensor / Spannvorrichtung	S.C. / A.T.
PV15-3600-32000-000-00-E	864	2928	-	PV15-3600-3200	1	3200	-		
PV15-4200-32000-000-00-E	914	3130	-	PV15-4200-3200	2	3200	-		
PV15-4800-32000-000-00-E	1097	3527	-	PV15-4800-3200	3	3200	-		
PV15-4800-36000-000-00-E	1188	3924	-	PV15-4800-3600	4	3600	-		
PV15-5400-36000-000-00-E	1219	4126	-	PV15-5400-3600	5	3600	-		
PV15-5400-40000-000-00-E	1261	4328	-	PV15-5400-4000	6	4000	-		
PV15-6000-40000-000-00-E	1321	4725	-	PV15-6000-4000	7	4000	-		
PV15-6000-44000-000-00-E	1423	5122	-	PV15-6000-4400	8	4400	-		
PV15-7200-44000-000-00-E	1679	5519	-	PV15-7200-4400	9	4400	-		
PV15-7200-50000-000-00-E	1778	6116	-	PV15-7200-5000	10	5000	-		

The machine is finished up from 2000 mm length / Die Hauptmasch ist ab einer Länge von 2000 mm verstellbar

ML = Multistage Length / Mehrstufenlänge

CW = Cleaning Width / Reinigungsbreite

PV15 with cable tensioner / PV15 mit Federabspannvorrichtung

PV15 with belt tensioner / PV15 mit Trichterabspannvorrichtung

PV15 with belt tensioner / PV15 mit Trichterabspannvorrichtung

Part number / Teilnummer	DM	ML	RL	Part number / Teilnummer	DM	ML	RL	Description / Beschreibung	Part / Teil-Nr.
PV15-180000000000000000-E	1	1800	-	PV15-180000000000000000-E	1	1800	-	PH Upper blade / Abstreifblatt	S.C. / A.T.
PV15-240000000000000000-E	2	2400	-	PV15-240000000000000000-E	2	2400	-	PH Upper blade / Abstreifblatt	S.C. / A.T.
PV15-360000000000000000-E	3	3600	-	PV15-360000000000000000-E	3	3600	-	PH Upper blade / Abstreifblatt	S.C. / A.T.
PV15-480000000000000000-E	4	4800	-	PV15-480000000000000000-E	4	4800	-	PH Upper blade / Abstreifblatt	S.C. / A.T.
PV15-600000000000000000-E	5	6000	-	PV15-600000000000000000-E	5	6000	-	PH Upper blade / Abstreifblatt	S.C. / A.T.
PV15-720000000000000000-E	6	7200	-	PV15-720000000000000000-E	6	7200	-	PH Upper blade / Abstreifblatt	S.C. / A.T.

© Copyright 2018 Martin Engineering. All rights reserved. Covered by U.S. and Foreign patents pending and issued. \* Job = Volume treatment of Waste Engineering

Martin Engineering GmbH  
 Leinhardtplatz 14  
 65576 Wülfel / Germany

11	100 mm x 100 mm	06.06.2018	06.06.2018
12	100 mm x 100 mm	24.07.14	06.06.2018
13	100 mm x 100 mm	06.06.2018	06.06.2018
14	100 mm x 100 mm	06.06.2018	06.06.2018

Part number / Teilnummer: PV15-180000000000000000-E

DM: 1 ML: 1800 RL: -

Part number / Teilnummer: PV15-240000000000000000-E

DM: 2 ML: 2400 RL: -

Part number / Teilnummer: PV15-360000000000000000-E

DM: 3 ML: 3600 RL: -

Part number / Teilnummer: PV15-480000000000000000-E

DM: 4 ML: 4800 RL: -

Part number / Teilnummer: PV15-600000000000000000-E

DM: 5 ML: 6000 RL: -

Part number / Teilnummer: PV15-720000000000000000-E

DM: 6 ML: 7200 RL: -

### 3.2 Tensioner

Item / Pos.	Qty. / Anz.		Description / Beschreibung	PIN / Teile-Nr.
	Single	Dual		
1	2	-	Adjustment ring dia 76 x 25 mm / Stellung	16845
2	1	2	Sleeve / Spannelement	31388
3	1	2	Ratchet adjusting knob / Ratschen Einstellknopf	33570-TT
4	1	2	Tensioner plunger / Schallstift	33572
5	1	2	Compressions spring 1" / Druckfeder	33573
6	1	2	Spring pin 1/8" x 1" / Hohlspannstift	33574
7	1	2	Self revelling coupling / Selbstauslösende Kupplung	33671
8	1	2	Tensioning drive / Spanngetriebe	33672
9	1	2	Coupling / Kupplung	33673
10	1	2	Nylon bushing dia 44 mm - ID / Nylonbuchse	33674
11	1	2	Nylon bushing / Nylonhülse	33675
12	1	2	Shock ring / Dämpfungsring	33681
13	1	2	Coupling housing / Kupplungshülse	38711
14	1	2	Spring housing / Spangehäuse	38712
15	2	4	Compression washer 5/16" / Federscheibe	11452
16	2	4	Screw HHC 5/16 x 3/4 / Sechskantkopfschraube	12250
17	6	4	Square head screw 1/2 x 1 / Vierkantenschraube	22763-03
18	8	8	HHC screw M12 x 45 - DIN 933, (1.0032) galv. / Sechskantschraube	41081-12045BZP-88
19	8	8	Hex nut M12 - DIN 934, (1.0032) galv. / Sechskantmutter	41086-12BZP
20	16	16	Washer flat M12 - DIN 125 A, (1.0032) galv. / Unterlegscheibe	41088-12AZP
21	8	8	Washer spring M12 - DIN 127, (1.0032) galv. / Federring	41090-12AZP
22	1	-	Farside flange / Gegenflansch	32496
23	1	-	Shock ring / Gummidämpfer	32501
24	1	-	Nylon bushing / Nylonbuchse	33335
25	1	-	Washer flat / Unterlegscheibe	34802

Notes:  
 1) All dimensions are given in mm  
 2) Weight: Single: 9,8 Kg  
 Dual: 13,6 Kg  
 Bemerkung:  
 1) Alle Maße sind in mm  
 2) Gewicht: Single: 9,8 Kg  
 Dual: 13,6 Kg

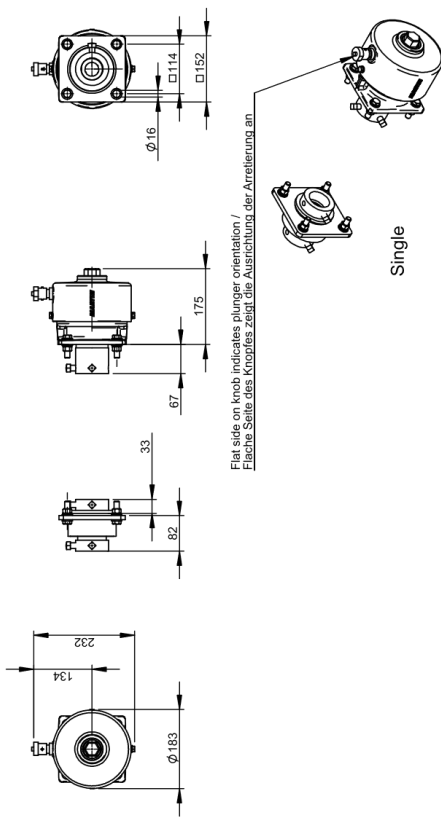
© Copyright 2016 Martin Engineering. All rights reserved. Created by U.S. and foreign patents pending and issued \* and \*\* indicate trademark of Martin Engineering.  
 Drawn: mmp  
 Date: 02/09/2014  
 Appr.:  
 Date: 12/02/2014

Martin Engineering GmbH  
 in der Republik  
 65396 Walluf, Germany

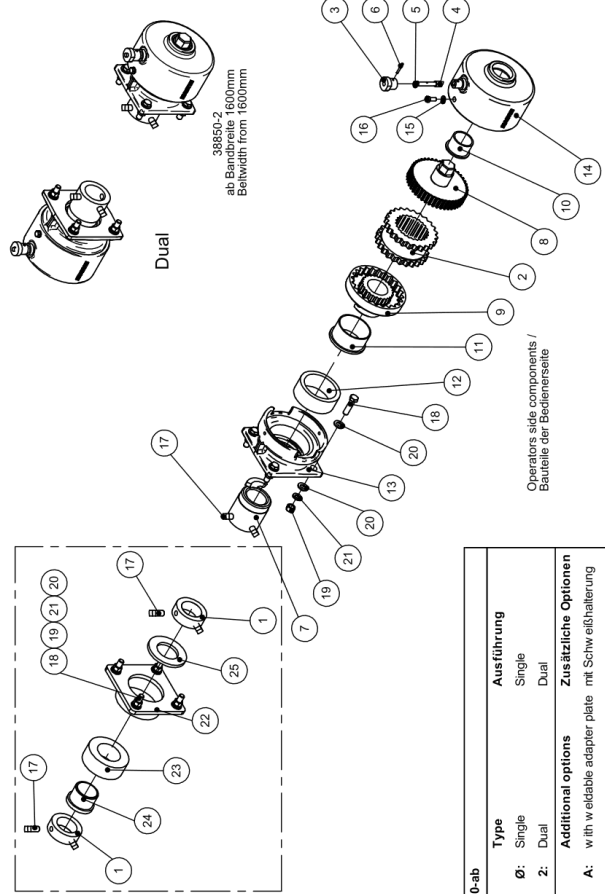
Title: Twist™ Spannvorrichtung  
 Twist™ tensioner

Revision  
 Drawing No. 38850-XX

No.	Description	Date	By
C			
B			
A			



For side components (via w/dual tensioner) /  
 Bauteile optional (gegenüber Seite (entfällt bei  
 Dualspannvorrichtung)



38850-ab

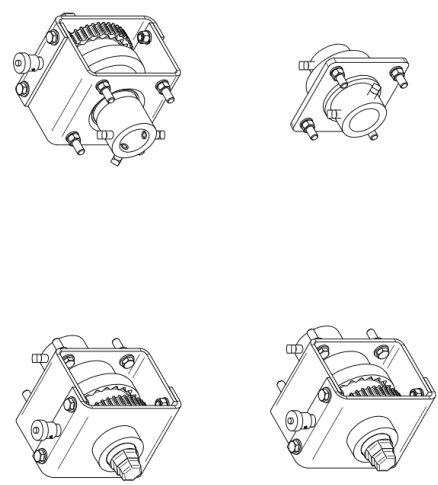
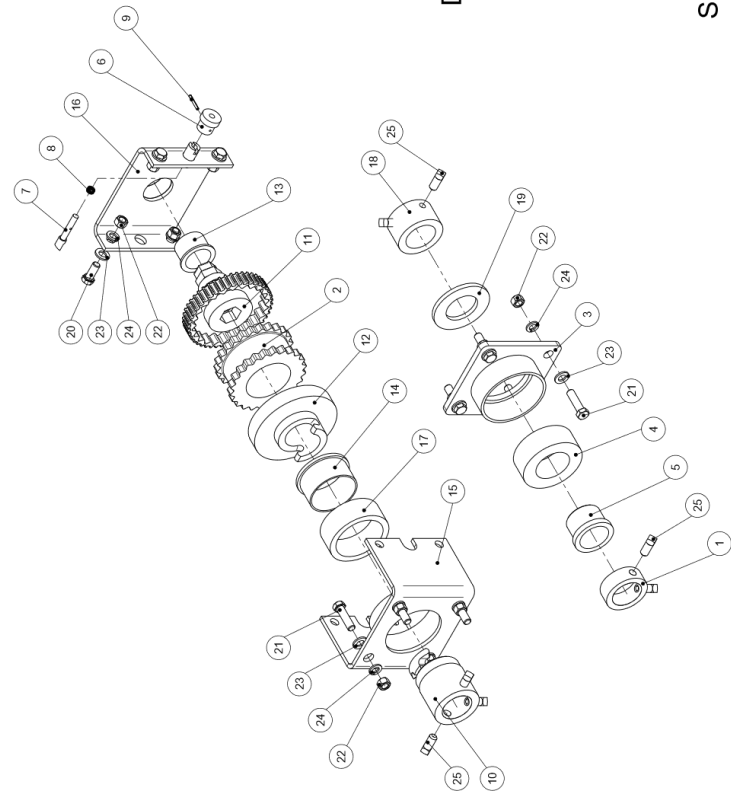
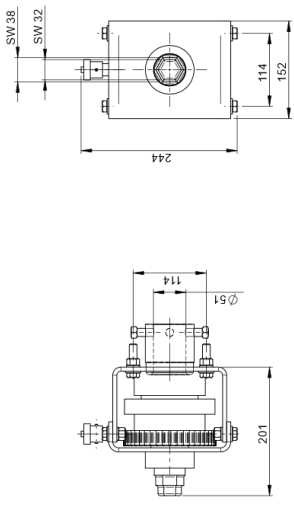
Type	Ausführung
1: Single	Single
2: Dual	Dual

Additional options / Zusätzliche Optionen

A: with w/edible adapter plate mit Schw eishalterung  
 L: with L-Bracket mit L-Halterung

Operators side components /  
 Bauteile der Bedienersseite

Item / Pos.	Qty / Avz.	Description / Beschreibung	P/N / Teile-Nr.
1	1 -	Locking collar / Sicherungsring	16845+E
2	1	Sleeve / Spannelement	31388
3	1	Flange / Gegengewicht	32466
4	1	Shock ring / Gummidämpfer	32501
5	1	Nylon bushing / Nylonbuchse	33335
6	1	Ratchet adjusting knob / Ratschen Einstellknopf	33570-TT
7	1	Tensioner plunger / Schallsift	33572
8	1	Compression spring / Druckfeder	33573
9	1	Spring pin 1/8" x 1" / Hohlspannsift	33574
10	1	Self-revelling coupling / Selbstauslösende Kupplung	33671
11	1	Gear casting / Spannrad	33672-H+E
12	1	Locking gear / Kupplung	33673-H+E
13	1	Nylon bushing 1.34" / Nylonbuchse	33674-I
14	1	Nylon bushing / Nylonhülse	33675
15	1	Base support / Basisaufnahme	33676
16	1	Tensioning support / Spannvorrichtungsaufnahme	33677
17	1	Shock ring / Dämpfungsfing	33681
18	1	Mounting hub (Metric) / Sicherungsring	34693+E
19	1	Washer flat / Unterlegscheibe	34802
20	4	HHC screw M12 x 30 - DIN 933 (1.0032)galv / Schenkelschraube	41081-12030BZP8
21	8	HHC screw M12 x 45 - DIN 933 (1.0032)galv / Schenkelschraube	41081-12045BZP8
22	12	Hex nut M12 - DIN 934 (1.0032)galv / Sechskernmutter	41086-12BZP
23	12	Washer flat M12 - DIN 125 A (1.0032)galv / Unterlegscheibe	41088-12AZP
24	12	Washer spring M12 - DIN 127 / Federling	41089-12AZP
25	7	Screw Sq M12x25 (DIN 479) / Verkensschraube	41444-12025BZP



Dual

Single

31443.aabbb-c+E		Part number / Teilenummer	
a	Type	Ausführung	
Ø	Single	Single	
2R	Dual	Dual	
b	Body type	Gehäusausführung	
I	Steel body (1.0037)	Stahlgehäuse (1.0037)	
IL	Steel body with extended coupling	Stahlgehäuse mit verlängerter Kupplung	
ICL	Steel body with side cover (Black)	Stahlgehäuse mit seitlicher Abdeckung (Schwarz)	
IC	Steel body with side cover (Orange)	Stahlgehäuse mit seitlicher Abdeckung (Orange)	
AI	Stainless steel body (1.4571)	Edelstahlgehäuse (1.4571)	
c	Finish	Lackierung	
Ø	Orange (RAL 2004) - Standard	Orange (RAL 2004) - Standard	
C	Orange (RAL 2004) - CSM	Orange (RAL 2004) - CSM	

Revision	
No.	Description
1	31443-XXXXXX+E

Revisions	
Date	Drawn by
14.01.08	31443-XXXXXX+E
03.09.08	
13.02.2016	

Martin Engineering GmbH  
 In der Freibach 14  
 65396 Walluf, Germany  
 TW5757-Vertrieb (Schlafhub)

ITEM	QTY.	DESCRIPTION	PART NUMBER
1	1	SPRING TENS MNT PLT W/DMT	38179
2	2	SHOCK RING	32501
3	2	NYLON BUSHING	33335
4	1	SPRING TENSIONER PADDLE ARM	30588-ST
5	1	ROD WELDMENT W/SS ROD	38176
6	1	WASHER FLAT 1 REGULAR ZP	32315
7	1	HAIRPIN COTTER .18 DIA X 3.56 ZP	35171
8	2	WASHER FLAT 3/4 WIDE ZP	20164
9	1	MEDIUM DUTY SPRING	32244-M
10	1	MEDIUM- HEAVY DUTY SPRING	32244-MH
11	2	NUT HEX 3/4-6 ACME ZP	38170
12	1	FLANGE PLATE WELDMENT	32496
13	1	MOUNTING HUB	16845
14	5	SCREW SHS 1/2-13NC X 1 SS	22763-03
15	1	MOUNTING HARDWARE KIT	34498
16	2	LABEL MARTIN PRODUCTS	32238
17	1	LABEL PINCH POINT WARNING	30528
18	2	LABEL CONVEYOR PRODUCTS WARNING	23295
19	1	LABEL SPRING TENSIONER	32259
20	1	MANUAL OPERATORS	M3263

SEE NOTE 3  
SEE NOTE 3 NS

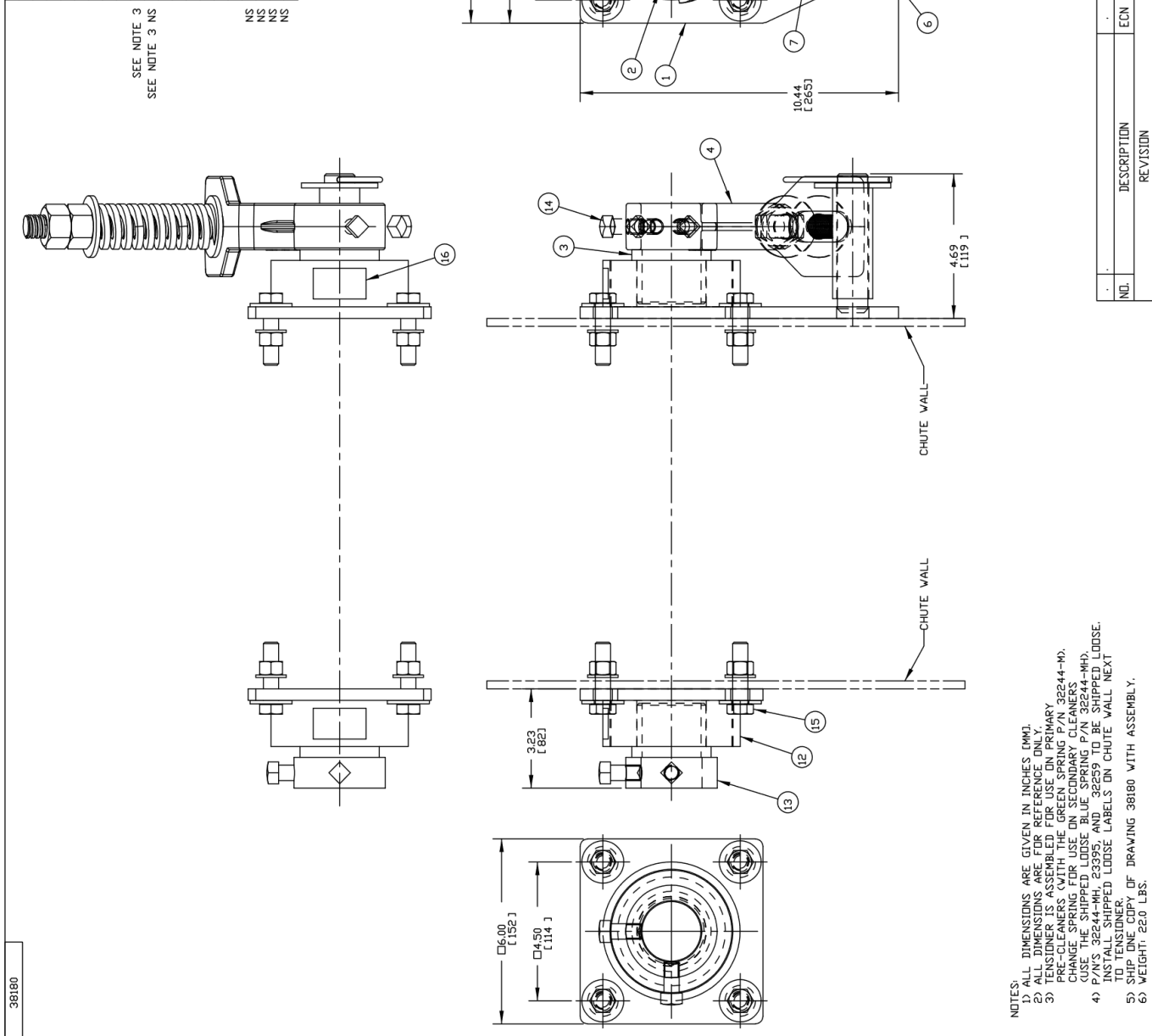
NS

NS

NS

NS

NS = NOT SHOWN



© Copyright 2007 Martin Engineering, all rights reserved. Covered by U.S. and Foreign Patents pending and issued. CAD: TR. Indicate trademarks of Martin Engineering.	
<b>MARTIN ENGINEERING</b> NEPONSET ILLINOIS USA	RND DRAWN DATE: 06/25/07 CHECKED
TITLE STANDARD DUTY SINGLE SPRING TENSIONER ASM F/48.00 BELTS & BELOW	ENG. HJB DATE: 07/20/07 I.E. HRD DATE: 07/23/07 APPROVED DM DATE: 07/20/07
DRAWING NUMBER 38180	SCALE 7/16

- NOTES:
- 1) ALL DIMENSIONS ARE GIVEN IN INCHES (MM).
  - 2) ALL DIMENSIONS ARE FOR REFERENCE ONLY.
  - 3) TENSIONER IS ASSEMBLED FOR USE ON PRIMARY PRE-CLEANERS (WITH THE GREEN SPRING P/N 32244-M). CHANGE SPRING FOR USE ON SECONDARY PRE-CLEANERS (WITH THE SHIPPER FOR USE ON CONVEYOR P/N 38170).
  - 4) P/N'S 32244-MH, 23395, AND 32259 TO BE SHIPPED LOOSE. INSTALL SHIPPED LOOSE LABELS ON CHUTE WALL NEXT TO TENSIONER.
  - 5) SHIP ONE COPY OF DRAWING 38180 WITH ASSEMBLY.
  - 6) WEIGHT: 220 LBS.

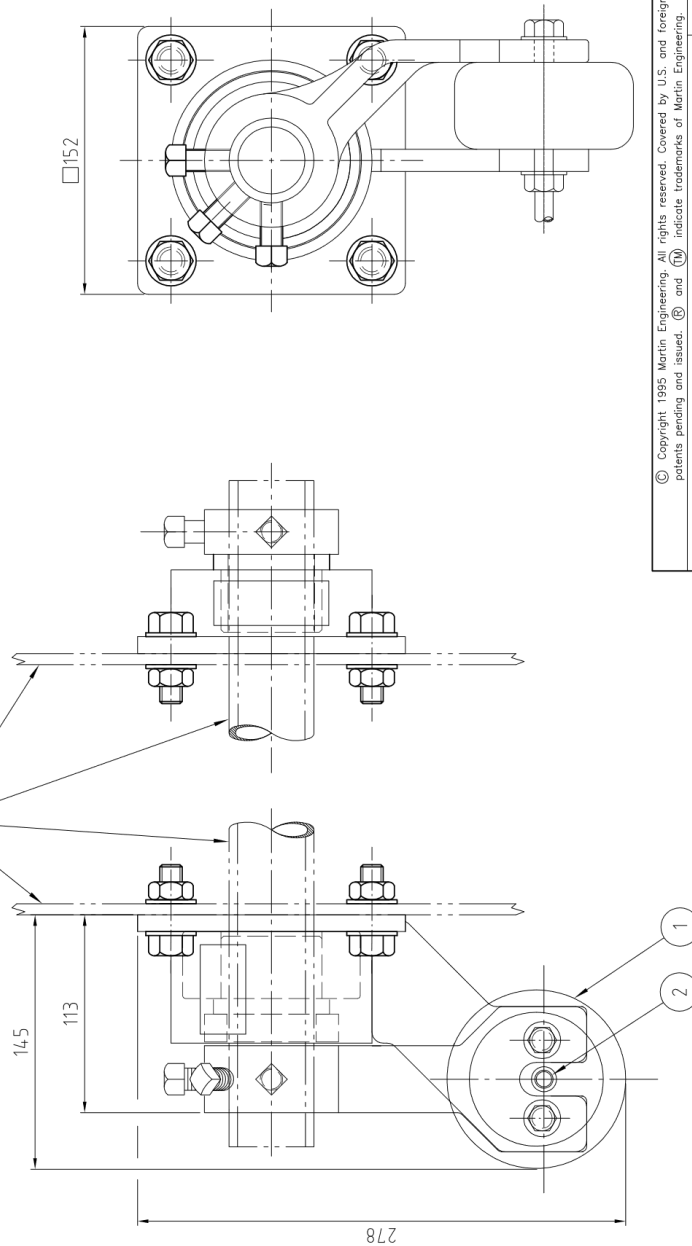
NO.	DESCRIPTION	DATE	BY
	REVISION		

Pos./Item	Anz./Qty	Beschreibung / Description	Teile-Nr./P/N
1	1	Gummidämpfungs-Luftspanner / Shockmount air paddle tensioner	32745
2	1	Reduziernippel 1/4" NPT 00-G1/4" ID / Reducer nipple	4.1254-02

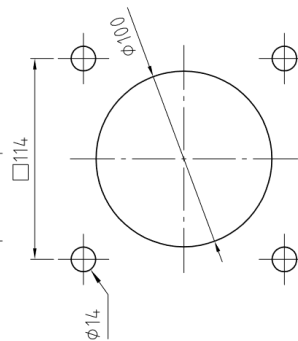
Bemerkung:  
 1) Alle Maße sind in mm.  
 2) Alle Maße ca. Angaben

Nur zur Verdeutlichung gezeigt.  
 Only shown for clarity.

Note:  
 1) All dimension are given in mm.  
 2) All dimensions are for reference only.



Bohrbild beidseitig.  
 Hole pattern operator- and far side



 <b>MARTIN ENGINEERING GMBH</b> In der Rehbach 14 65396 Walluf GERMANY		Drawn: sbe Date: 14.05.2008 Kontrolliert Checked
Benennung Title <b>Gummidämpfungs-Luftspanner</b> Shockmount air paddle tensioner		Eng.: Date: Appr.: Date:
Zeichnung Drawing No. <b>32745+E</b>		Plott Date: 14.05.2008 Ms./Sc.: 1:2.5

C			
B			
A	Zeichnung komplett überarbeitet.	14.05.08	sbe
Nr. No.	Benennung (Description)	Änderung (Revision)	







### **Germany**

Martin Engineering GmbH  
In der Rehbach 14, 65396 Walluf, Germany  
Tel. +49 (0)6123 97820; Fax +49 (0)6123 75533  
info@martin-eng.de; www.martin-eng.de

### **Spain**

Martin Engineering Spain  
c/Balmes 297 1er 2a, 08006 Barcelona, Spain  
Tel. +34 (0)876 245114; Fax +34 (0)966 719371  
info@martin-eng.es; www.martin-eng.es

### **Great Britain**

Martin Engineering Ltd.  
8, Experian Way, NG2 Business Park,  
Nottingham NG2 1EP, Nottinghamshire, Great Britain  
Tel +44 115 946 4746; Fax +44 115 946 5550  
info@martin-eng.co.uk; www.martin-eng.co.uk

### **Turkey**

Martin Engineering Türkiye  
Yukarı Dudullu İmes Sanayi Sitesi, B Blok 205 Sokak No.6  
34775 Ümraniye İstanbul, Turkey  
Tel +90 216 499 34 91; Fax +90 216 499 34 90  
info@martin-eng.com.tr; www.martin-eng.com.tr

### **France**

Martin Engineering SARL  
50 Avenue d'Alsace, 68025 Colmar Cedex, France  
Tel +33 389 20 63204; Fax +33 389 20 4379  
info@martin-eng.fr; www.martin-eng.fr

### **Italy**

Martin Engineering Italy Srl  
Via Buonarroti, 43/A, 20064 Gorgonzola (MI), Italy  
Tel +39 295 3838 51; Fax +39 295 3838 15  
info@martin-eng.it; www.martin-eng.it

### **Russia**

OOO Martin Engineering  
Ul. Bolshaya Dmitrovka, 23/1  
125009 Moscow, Russia  
Tel +7 495 181 33 43; Fax +7 499 720 62 12  
info@martin-eng.ru; www.martin-eng.ru