



An Acument™ Global Technologies Company

Instruction manual English Version



7539-300X series

Speed fastening system

The following signs will be used in this instruction manual:



Important notice



Warning notice



Eye protection must be worn (BGV A8 - M01) [▲]



Clearing before work (BGV A8 - M14) [▲]



Pulling power plug before open (BGV A8 - M13) [▲]



Danger, injury of hands (BGV A8 - W27) [▲]



Waste disposal with recycling circuit



Do not throw together with domestic waste

[▲] = Safety signs in accordance with Council Directive 92/58/EEC annex 2 of 24 June 1992





	Page
Symbols	2
Contents	3
1 Safety rules	5
2 General data	
Warranty/Liability	6
Duty of owner	6
Duty of operators	7
Manufacturer/Contact person	7
Document information	7
3 Specifications	8
4 Description of machine	
Intended purpose	9
Components	10
5 Equipment	
Mandrel orientation table	11
Nose jaws	12
Mandrel/Mandrel follower springs	16
6 Operation	
Installation	23
Engineering	24
Maintenance/Repair	25
Storage/Transport	29
Trouble shooting	30

	Page	
7 Waste disposal		
Regulations	31	
Waste disposal	31	
Addresses	31	
8 EC declaration of conformity	32	
9 3rd party literature		
DRUMAG GmbH Pressure intensifier HPU 100/18/02	33	9 Pages DIN A4
10 Machine plans		
Drawing 07539-30000 Speed fasteners system	44	2 Page DIN A4
Drawing 07539-30010 Speed fasteners system	46	2 Page DIN A4

(1) Safety rules



The safety rules below must be observed by any person installing, operating or servicing this machine!

- 1 Use the machine only for its intended purpose with approved fastenings (see chapter entitled "Description of machine - intended purpose").
- 2  Eye protection must be worn while the machine is in operation.
- 3  Safety gloves must be worn for jobs involving sharp-edged workpieces.
- 4 Do not use any spare parts or equipment for this machine other than those recommended and supplied by Avdel Deutschland GmbH.
- 5 The machine shall at all times be maintained in accordance with the applicable safety standards to guarantee reliable working.
- 6  The machine must be secured against being switched back on before any maintenance or repair work is carried out.
- 7 The state of the machine must at all times conform to the applicable health and safety legislation. Any questions concerning machine and operator safety should be directed to Avdel Deutschland GmbH.
- 8 Before starting the machine, the operator must always check that safety devices are properly installed, working and operationally safe.
- 9 Ensure that venting devices are not covered or blocked.
- 10 Technical modifications to the machine which are not performed or expressly confirmed by Avdel Deutschland GmbH in writing will lead to the scope of liability and warranty being restricted.
- 11 Hydraulic components and lines must be depressurised before any maintenance or repair work is carried out on them.
- 12 Pneumatic components and lines must be disconnected from the compressed air supply before any maintenance or repair work is carried out on them.
- 13 The machine must only operated by staff who have received appropriate training and instruction. The applicable health and safety regulations must be observed.
- 14 This instruction manual must always be kept in the immediate vicinity of the machine, accessible and legible to staff.
- 15  Workpieces wrongly positioned in the tools of machines may not be removed or corrected by hand until the machine has come to a complete stop.

WARRANTY/LIABILITY

The **Allgemeine Geschäftsbedingungen** (general terms and conditions) of Avdel Deutschland GmbH apply in principle. These will be available to the customer as owner no later than when the contract is concluded.

Claims under warranty and liability for personal injury and material damage are excluded if such claims are due to one or more of the following causes:

- ▶ The machine not being used in accordance with purpose (see chapter entitled “Contents page”)
- ▶ incorrect installation, commissioning, operation and maintenance of the machine
- ▶ operating the machine in spite of defective, incorrectly installed or non-functioning safety devices
- ▶ structural alteration without the express confirmation of Avdel Deutschland GmbH
- ▶ poor monitoring of individual parts subject to wear
- ▶ incorrect repair or maintenance of the machine
- ▶ disasters caused by the action of foreign bodies/force majeure

DUTY OF OWNER

The owner of the machine undertakes to

- ▶ allow only those persons familiar with fundamental health and safety regulations and who have been instructed in the handling of the machine to work with the tool
- ▶ provide the necessary safety clothing for operating staff of the suspended tool
- ▶ regularly test the safety devices provided on the suspended tool
- ▶ ensure that operators read and understand the instruction manual, especially the safety rules and warning advice

DUTY OF OPERATORS

The operators of the machine undertake to

- ▶ observe fundamental health and safety regulations
- ▶ read the instruction manual, especially the safety rules and warnings, and clarify anything they do not fully understand
- ▶ report damage to the machine without delay and stop the tool immediately in the event of danger

MANUFACTURER/CONTACT

The manufacturer of the machine is:

Address

Avdel Deutschland GmbH

Klusriede 24	Postfach 14 63
D - 30851 Langenhagen	D - 30835 Langenhagen
Germany	Germany

Contact

General	Reception	Telefon 0511 7288 0 Fax 0511 7288 133 E-Mail AVDEL.Deutschland@acument.com
	Technology	Ina Henjes Telefon 0511 7288 375 Fax 0511 7288 326 E-Mail IHenjes@acument.com

DOCUMENT INFORMATION

The copyright © for this instruction manual remains with Avdel Deutschland GmbH. This instruction manual is intended solely for the owner and his or her staff. It contains regulations and advice which may not be

- reproduced
- published
- passed on in any other form

in whole or in part without the express written permission of Avdel Deutschland GmbH.

February 2007

(3) Specifications

English

Speed fastening system
Part No.: 7539-300X series

WORKING DATA

Typ

7539-300X

- X ➔ 0 Tool Stand Workstation
- X ➔ 1 Underbench Workstation
- X ➔ 2 *Free*
- X ➔ 3 *Free*
- X ➔ 4 7530-X with 4m Hose
- X ➔ 5 Suspended Tool with 3m Hose

Working Pressure (pneumatic)	6 bar
Maximum System Pressure (hydraulic)	240 bar
Optimum Working Temperature	15 - 30°C
Hydraulic Oil	DIN EN ISO 6743-4 HLP46
Noise Level	75dB(A) at 1m Distance

(4) Description

Speed fastening system
Part No.: 7539-300X series

INTENDED PURPOSE

The 7239-300X series with the according noses and mandrels (→ section "Equipment") is designed for processing speed fasteners. For any ambiguity please call Avdel Deutschland GmbH (→ section "General data – Contact")

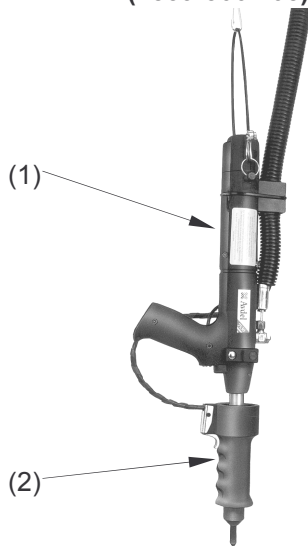


Any use of the machine other than that described above is considered not in accordance with the intended purpose!

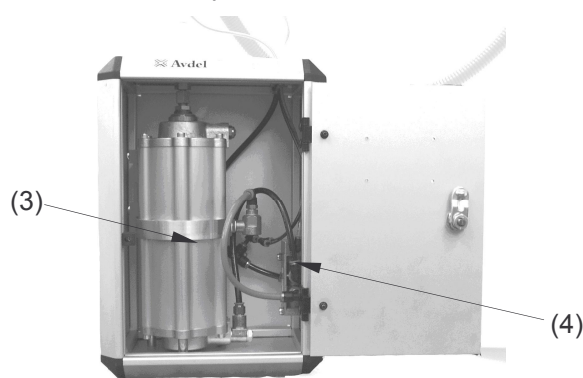
COMPONENTS

The 7539-300X consists of the following optional components:

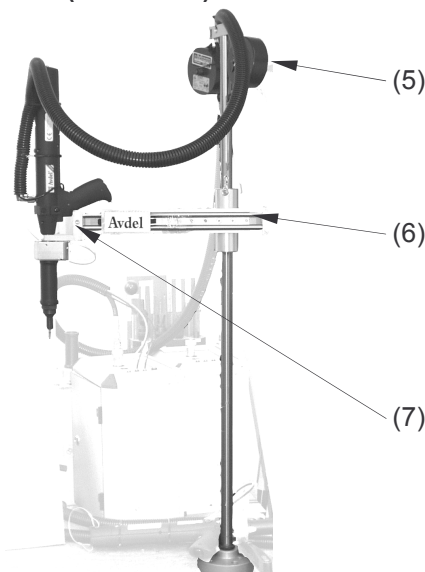
**Suspended tool
(7539-3004/05)**



**Supply unit (regular part)
with pressure intensifier**



**Tool stand workstation
(7539-3000)**



Item	Description	Part No.
1	Basic tool	07530-22000
2	Handle	78230-01217
3	Pressure intensifier	78230-01770
4	Pneumatic valve	78230-00026
5	Balancer	78230-00005
6	Tool stand	78230-01218
7	Tool holder	78230-01299



1-800-453-1692

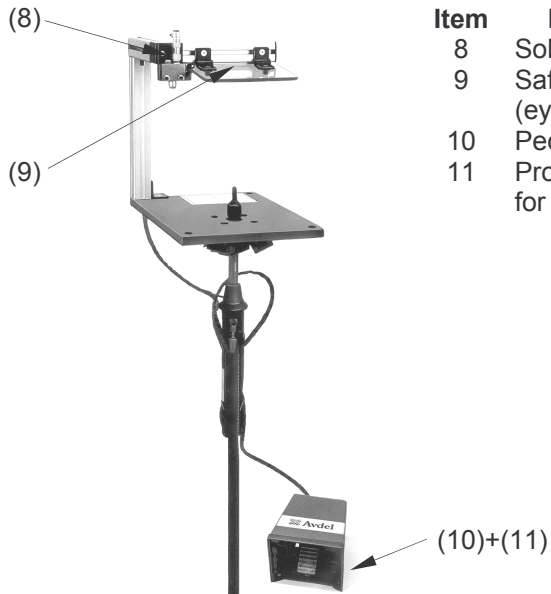
www.aboveboardelectronics.com

(4) Description

Speed fastening system
Part No.: 7539-300X series

COMPONENTS

**Underbench Workstation
(7539-3001)**

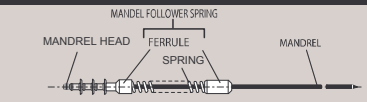












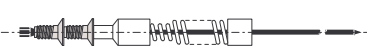




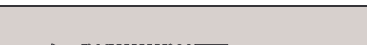


Item	Description	Part No.
8	Solenoid valve	RD02-1539
9	Safety device (eye protection)	-/-
10	Pedal valve	78230-01386
11	Protective cover for pedal valve	78230-01195

(5) Equipment

Speed fastening system
Part No.: 7539-300X series

MANDREL ORIENTATION TABLE

FASTENER		NOSE JAW (SEE NOSE EQUIPMENT SECTION)	MANDREL SIZE	MANDREL/MANDREL FOLLOWER SPRING AND FASTENER ASSEMBLY
NAME	SIZE			
BRIV	3/32"	STANDARD TAPERED	ALL	
	3/32"	LIMITED ACCESS & LIMITED ACCESS CAM OPERATED	ALL	
	1/8"	ALL	ALL	
	5/32"	ALL	ALL	
	3/16"	ALL	ALL	
CHOBERT AVLUG GROVIT	3/32"	ALL EXCEPT STANDARD TAPERED, LIMITED ACCESS	ALL	
	3/32"	STANDARD TAPERED, LIMITED ACCESS	ALL	
	1/8"	ALL	ALL	
CHOBERT GROVIT	5/32"	ALL	ALL EXCEPT 3 RD OVERSIZE	
	5/32"	ALL	3 RD OVERSIZE	
	3/16"	ALL	ALL EXCEPT 2 ND OVERSIZE	
	3/16"	ALL	2 ND OVERSIZE	
CHOBERT	1/4"	ALL	ALL	
RIVSCREW	2,8mm 3mm 3,5mm 4mm	ALL	ALL	
AVSERT	2,5mm 4 x 40 UNC	ALL	ALL	
	3mm 6 x 32 UNC	ALL	ALL	
AVTRONIC	2,5mm	ALL	ALL	
	2,8mm	ALL EXCEPT LIMITED ACCESS	ALL	
	2,8mm	LIMITED ACCESS	ALL	

NOSE JAWS

On speed riveting tools such as 0753 Mk II type, the nose equipment always consists of three elements, a nose jaw, a mandrel and mandrel follower spring. All three items are matched to the fastener being placed and to the hole size in the application.



To avoid complete dismantling of the tool it is essential to check the orientation of the cursor before fitting the nose equipment to the tool.



It is essential that the correct nose equipment is fitted to the tool to ensure both effective placing of the fastener and safe operation of the tool.

To identify the correct combination of nose equipment to fit your tool first select a nose jaw by reading the section below then read the mandrel section to select part numbers both for the mandrel itself and for the mandrel follower spring. Mandrels and mandrel follower springs are illustrated on page 11.

To fit the nose equipment, follow the 'Loading the tool' on page 23 procedure



The wrong nose jaw could result in an incorrectly placed or incorrect clench.

Nose Jaws can be categorised into 7 different basic shapes as drawn opposite, even though internal dimensions will vary according to the fastener it is intended for. Exact dimensions referring to the letters in the illustrations opposite are indicated in the 'NOSE JAW SELECTION TABLES'

For a particular shape, there may be several options of end form giving access benefits or fastener placing enhancement.

FLAT

- ▶ Normal end form of all nose jaws.
- ▶ Suitable on all applications with no access restrictions.

UNIVERSAL

- ▶ Designed for use with universal head Chobert fasteners.
- ▶ Can also be used with Briv fasteners to obtain the highest possible clench. Note this reduces the maximum grip range of the Briv fastener by approximately 0,015" (0,4mm).

RECESSED

- ▶ For use with Briv fasteners ONLY.
- ▶ It gives a higher clench than a flat end form but less than a universal end form, with no reduction of the grip range of the fastener.

TAPERED

- ▶ Available as shown in the 'Nose Jaw Selection Tables'.
- ▶ Allows greater accessibility than a flat end form and places the same range.

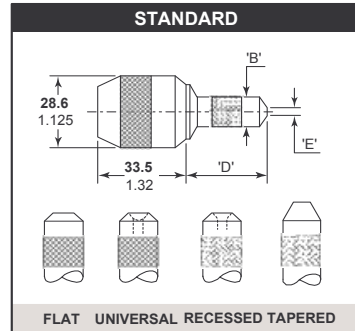
HEAD FORMING (HF)

- ▶ For use with Rivscrew fasteners ONLY.
- ▶ Deforms the heads of the fasteners to achieve good clench.

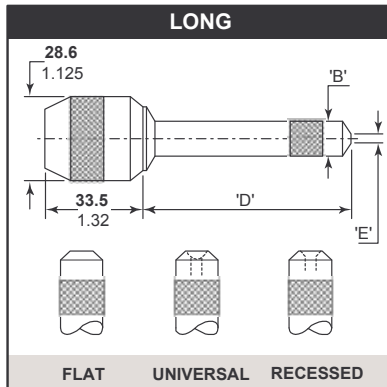
(5) Equipment

SELECTING A NOSE JAW

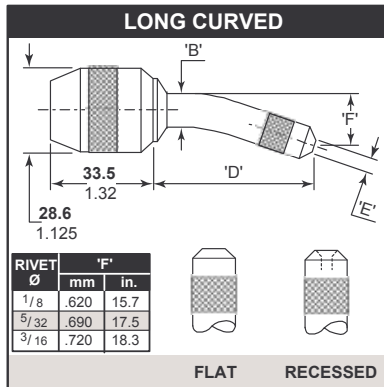
- ▶ List the name, size and material of the fastener to be placed.
- ▶ Look for this fastener in the first column of the nose jaw selection tables
- ▶ Looking right across the table, take note of which nose jaws are available. ONLY those shown are available.
- ▶ Select which is most suitable for your application by referring to the respective nose jaw drawing. If your application has no access restriction, you should select the standard shape with a flat end form or without a cam.



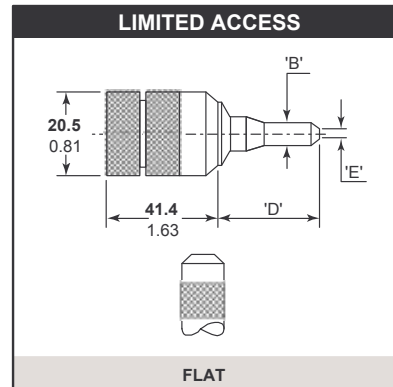
Available in 4 different end forms to place all fasteners (except Rivscrew). Suitable on applications with no or little access restriction.



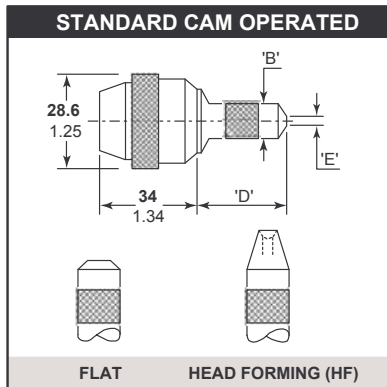
Available to place most of the fasteners. Allows more penetration into applications with no other access restriction.



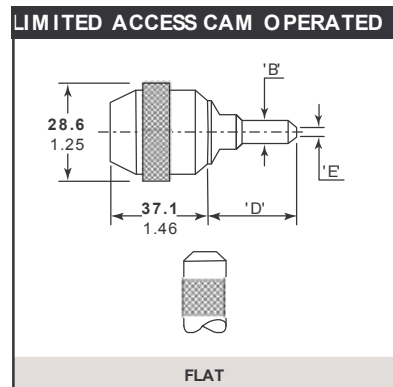
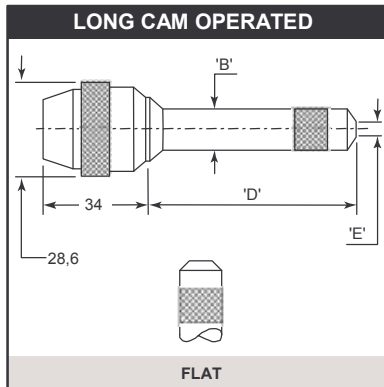
Available as shown in NOSE JAW SELECTION TABLE. Allows more penetration into applications with restricted access. Mandrels must be curved by hand to follow the shape of the jaw.



Available as shown in NOSE JAW SELECTION TABLE. Allows access into very restrictive applications.



Available as shown in NOSE JAW SELECTION TABLE overleaf. Equivalent functions to the Standard, Long and Limited Access above with the addition of a cam to ease and speed up the nose jaw opening thus the pod reloading procedure.



(5) Equipment

Speed fastening system
Part No.: 7539-300X series

The 'REF N°' column cross references with the 'REF N°' columns in the mandrel section. It identifies both the mandrel and mandrel follower spring required for a particular nose jaw with a specific fastener.

FASTENER	REF. N°	NOSE JAW			DIMENSIONS			REF. N°	NOSE JAW			DIMENSIONS		
		TYPE AND END FORM	PART N°	'B'	'D'	'E'	TYPE AND END FORM		PART N°	'B'	'D'	'E'		
3/32" CHOBERT & GROVIT	1	STANDARD - FLAT	07150-03003	,36	1,30	,16	1	# STANDARD - UNIVERSAL	07150-03203	,36	1,33	,24		
	1	STD. CAM OPERATED - FLAT	07170-04500	,36	1,30	,16	1	LTD. ACCESS CAM OPERATED	07177-03003	,20	1,18	,16		
	2	STANDARD - TAPERED	07170-03103	,36	1,30	,16	3	LIMITED ACCESS	07274-01000	,22	1,01	,16		
	4	LONG - FLAT	07150-04004	,41	2,30	,16	4	LONG CURVED - FLAT	07150-05003	,41	2,28	,16		
1/8" CHOBERT & GROVIT	5	STANDARD - FLAT	07150-03004	,41	1,18	,20	5	# STANDARD - UNIVERSAL	07150-03204	,41	1,22	,32		
	5	STANDARD - TAPERED	07170-03104	,41	1,19	,20	5	STD. CAM OPERATED - FLAT	07170-04600	,41	1,18	,20		
	6	LONG - FLAT	07150-04004	,41	2,18	,20	6	# LONG - UNIVERSAL	07150-04204	,41	2,22	,30		
	6	LONG CURVED - FLAT	07150-05004	,41	2,12	,20	6	LONG CAM OPERATED - FLAT	07170-05000	,41	2,18	,20		
5/32" CHOBERT & GROVIT	7	STANDARD - FLAT	07150-03005	,48	1,30	,24	7	# STANDARD - UNIVERSAL	07150-03205	,48	1,35	,41		
	7	STANDARD - TAPERED	07150-03105	,44	1,30	,24	7	STD. CAM OPERATED - FLAT	07170-04700	,48	1,30	,24		
	8	LONG - FLAT	07150-04005	,48	2,30	,24	8	# LONG - UNIVERSAL	07150-04205	,48	2,35	,42		
	8	LONG CURVED - FLAT	07150-05005	,48	2,23	,24	8	LONG CAM OPERATED - FLAT	07170-05100	,48	2,30	,24		
3/16" CHOBERT & GROVIT	9	STANDARD - FLAT	07150-03006	,56	1,18	,33	9	# STANDARD - UNIVERSAL	07150-03206	,56	1,24	,47		
	9	STANDARD - TAPERED	07150-03106	,56	1,18	,33	9	STD. CAM OPERATED - FLAT	07170-04800	,56	1,18	,33		
	10	LONG - FLAT	07150-04006	,56	2,30	,33	10	# LONG - UNIVERSAL	07150-04206	,56	2,39	,48		
	10	LONG CURVED - FLAT	07150-05006	,56	2,21	,33	10	LONG CAM OPERATED - FLAT	07170-05200	,56	2,30	,33		
1/4" CHOBERT	11	STANDARD - FLAT	07150-03008	,64	1,18	,39	11	STD. CAM OPERATED - FLAT	07170-04900	,64	1,18	,39		
	12	LONG - FLAT	07150-04008	,64	2,18	,39	12	LONG CAM OPERATED - FLAT	07170-05300	,64	2,18	,39		
3/32" BRIV	13	STANDARD - TAPERED	07170-03103	,36	1,30	,15	14	LTD. ACCESS CAM OPERATED	07177-03003	,20	1,18	,16		
	14	LIMITED ACCESS	07274-01000	,22	1,07	,16	-	-	-	-	-	-		
1/8" BRIV Al. Alloy, Brass, Steel	15	STANDARD - FLAT	07150-03004	,41	1,18	,20	15	STANDARD - RECESSED	07170-03004	,41	1,20	,30		
	15	STANDARD - TAPERED	07170-03104	,41	1,19	,20	16	LONG - FLAT	07150-04004	,41	2,18	,20		
	16	LONG - RECESSED	07170-03204	,41	2,18	,30	16	LONG CURVED - FLAT	07150-05004	,41	2,12	,20		
	16	LONG CURVED - RECESSED	07170-03304	,41	2,12	,30	-	-	-	-	-	-		
5/32" BRIV Al. Alloy, Brass, Steel	17	STANDARD - FLAT	07150-03005	,48	1,30	,24	17	STANDARD - RECESSED	07170-03005	,48	1,32	,41		
	18	LONG - FLAT	07150-04005	,48	2,30	,24	18	LONG - RECESSED	07170-03205	,48	2,30	,41		
	18	LONG CURVED - FLAT	07150-05005	,48	2,23	,24	18	LONG CURVED - RECESSED	07170-03305	,48	2,23	,41		
5/32" BRIV St. Steel only	19	STANDARD - FLAT	07150-03005	,48	1,30	,24	19	STANDARD - RECESSED	07170-03005	,48	1,32	,41		
	20	LONG - FLAT	07150-04005	,48	2,30	,24	20	LONG - RECESSED	07170-03205	,48	2,30	,41		
	20	LONG CURVED - FLAT	07150-05005	,48	2,23	,24	20	LONG CURVED - RECESSED	07170-03305	,48	2,23	,41		
3/16" BRIV Al. Alloy, Brass, Steel	21	STANDARD - FLAT	07150-03006	,56	1,18	,33	21	STANDARD - RECESSED	07170-03006	,56	1,20	,47		
	22	LONG - FLAT	07150-04006	,56	2,30	,33	22	LONG - RECESSED	07170-03206	,56	2,30	,47		
	22	LONG CURVED - FLAT	07150-05006	,56	2,21	,33	22	LONG CURVED - RECESSED	07170-03306	,56	2,21	,47		
3/16" BRIV St. Steel only	23	STANDARD - FLAT	07150-03006	,56	1,18	,33	23	STANDARD - RECESSED	07170-03006	,56	1,20	,47		
	24	LONG - FLAT	07150-04006	,56	2,30	,33	24	LONG - RECESSED	07170-03206	,56	2,30	,47		
	24	LONG CURVED - FLAT	07150-05006	,56	2,21	,33	24	LONG CURVED - RECESSED	07170-03306	,56	2,21	,47		
6mm BRIV Al. Alloy, Steel	25	STD. CAM OPERATED	07170-05600	,64	1,21	,52	25	STANDARD - FLAT	07170-05800	,64	1,21	,52		
	26	LONG CAM OPERATED	07170-05700	,64	2,19	,52	26	LONG - FLAT	07170-05900	,64	2,19	,52		
3/32" AVLUG	27	STANDARD - FLAT	07150-03003	,36	1,30	,16	27	STANDARD - TAPERED	07150-03103	,36	1,30	,16		
	27	STD. CAM OPERATED - FLAT	07170-04500	,36	1,30	,16	28	LONG - FLAT	07150-04003	,41	2,30	,16		
	28	LONG CURVED - FLAT	07150-05003	,41	2,28	,16	-	-	-	-	-	-		
1/8" AVLUG	29	STANDARD - FLAT	07150-03004	,41	1,18	,20	29	STANDARD - TAPERED	07170-03104	,41	1,19	,20		
	29	STD. CAM OPERATED - FLAT	07170-04600	,41	1,18	,20	30	LONG - FLAT	07150-04004	,41	2,18	,20		
	30	LONG CURVED - FLAT	07150-05004	,41	2,12	,20	30	LONG CAM OPERATED - FLAT	07170-05000	,41	2,18	,20		
2,5mm 4,40 UNC	31	STANDARD - FLAT	07150-03003	,36	1,30	,16	-	-	-	-	-	-		
3,0mm 6,32 UNC	32	STANDARD - FLAT	07150-03004	,41	1,18	,20	32	STD. CAM OPERATED - FLAT	07170-04600	,41	1,18	,20		
2,5mm AVTRONIC	33	STANDARD - FLAT	07150-03003	,36	1,30	,16	33	LTD. ACCESS CAM OPERATED	07271-0800	,41	1,18	,16		
	34	LONG - FLAT	07150-04003	,41	2,30	,16	-	-	-	-	-	-		
2,8mm AVTRONIC	35	STANDARD - FLAT	07271-05600	,36	1,30	,16	36	LTD. ACCESS CAM OPERATED	07271-08100	40	1,18	,16		
	37	LONG - FLAT	07271-05900	,41	2,30	,16	-	-	-	-	-	-		
2,8mm RIVSCREW	38	STD. CAM OPERATED - HF	07271-03000	,41	1,18	,24	-	-	-	-	-	-		
3,0mm RIVSCREW	39	STD. CAM OPERATED - HF	07271-03000	,41	1,18	,24	-	-	-	-	-	-		
3,5mm RIVSCREW	40	STD. CAM OPERATED - HF	07271-03500	,41	1,18	,24	-	-	-	-	-	-		
4,0mm RIVSCREW	41	STD. CAM OPERATED - HF	07271-04000	,41	1,18	,25	-	-	-	-	-	-		

These nose jaws are suitable for placing Chobert rivets with a Universal Head Form. When used on the equivalent size of Briv, the highest possible clench is achieved. Note that when using Briv fasteners, the maximum grip is reduced by approximately 0,015" (0,4 mm).

(5) Equipment

FASTENER	REF. N°	NOSE JAW		DIMENSIONS			REF. N°	NOSE JAW		DIMENSIONS		
		TYPE AND END FORM	PART N°	'B'	'D'	'E'		TYPE AND END FORM	PART N°	'B'	'D'	'E'
3/32" CHOBERT & GROVIT	1	STANDARD - FLAT	07150-03003	9,14	33,02	4,06	1	# STANDARD - UNIVERSAL	07150-03203	9,14	33,78	6,10
	1	STD. CAM OPERATED - FLAT	07170-04500	9,14	33,02	4,06	1	LTD. ACCESS CAM OPERATED	07177-03003	5,08	29,97	4,06
	2	STANDARD - TAPERED	07170-03103	9,14	33,02	4,06	3	LIMITED ACCESS	07274-01000	5,59	27,18	4,06
	4	LONG - FLAT	07150-04003	10,41	58,42	4,06	4	LONG CURVED - FLAT	07150-05003	10,41	57,91	4,06
1/8" CHOBERT & GROVIT	5	STANDARD - FLAT	07150-03004	10,41	29,97	5,08	5	# STANDARD - UNIVERSAL	07150-03204	10,41	30,99	8,13
	5	STANDARD - TAPERED	07170-03104	10,41	30,23	5,08	5	STD. CAM OPERATED - FLAT	07170-04600	10,41	29,97	5,08
	6	LONG - FLAT	07150-04004	10,41	55,37	5,08	6	# LONG - UNIVERSAL	07150-04204	10,41	56,39	7,62
	6	LONG CURVED - FLAT	07150-05004	10,41	53,85	5,08	6	LONG CAM OPERATED - FLAT	07170-05000	10,41	55,37	5,08
5/32" CHOBERT & GROVIT	7	STANDARD - FLAT	07150-03005	12,18	33,02	6,10	7	# STANDARD - UNIVERSAL	07150-03205	12,19	34,29	10,41
	7	STANDARD - TAPERED	07150-03105	11,18	33,02	6,10	7	STD. CAM OPERATED - FLAT	07170-04700	12,19	33,02	6,10
	8	LONG - FLAT	07150-04005	12,19	58,42	6,10	8	# LONG - UNIVERSAL	07150-04205	12,19	59,69	10,67
	8	LONG CURVED - FLAT	07150-05005	12,19	56,64	6,10	8	LONG CAM OPERATED - FLAT	07170-05100	12,19	58,42	6,10
3/16" CHOBERT & GROVIT	9	STANDARD - FLAT	07150-03006	14,22	29,97	8,38	9	# STANDARD - UNIVERSAL	07150-03206	14,22	31,50	11,94
	9	STANDARD - TAPERED	07150-03106	14,22	29,97	8,38	9	STD. CAM OPERATED - FLAT	07170-04800	14,22	29,97	8,38
	10	LONG - FLAT	07150-04006	14,22	58,42	8,38	10	# LONG - UNIVERSAL	07150-04206	14,22	60,71	12,19
	10	LONG CURVED - FLAT	07150-05006	14,22	56,13	8,38	10	LONG CAM OPERATED - FLAT	07170-05200	14,22	58,42	8,38
1/4" CHOBERT	11	STANDARD - FLAT	07150-03008	16,26	29,97	9,91	11	STD. CAM OPERATED - FLAT	07170-04900	16,26	29,97	9,91
	12	LONG - FLAT	07150-04008	16,26	55,37	9,91	12	LONG CAM OPERATED - FLAT	07170-05300	16,26	55,37	9,91
3/32" BRIV Brass only	13	STANDARD - TAPERED	07170-03103	9,14	33,02	3,81	14	LTD. ACCESS CAM OPERATED	07177-03003	5,08	29,97	4,06
	14	LIMITED ACCESS	07274-01000	5,59	27,18	4,06	-	-	-	-	-	-
1/8" BRIV Al. Alloy, Brass, Steel	15	STANDARD - FLAT	07150-03004	10,41	29,97	5,08	15	STANDARD - RECESSED	07170-03004	10,41	30,48	7,62
	15	STANDARD - TAPERED	07170-03104	10,41	30,23	5,08	16	LONG - FLAT	07150-04004	10,41	55,37	5,08
	16	LONG - RECESSED	07170-03204	10,41	55,37	7,62	16	LONG CURVED - FLAT	07150-05004	10,41	53,85	5,08
	16	LONG CURVED - RECESSED	07170-03304	10,41	53,85	7,62	-	-	-	-	-	-
5/32" BRIV Al. Alloy, Brass, Steel	17	STANDARD - FLAT	07150-03005	12,19	33,02	6,10	17	STANDARD - RECESSED	07170-03005	12,19	33,53	10,41
	18	LONG - FLAT	07150-04005	12,19	58,42	6,10	18	LONG - RECESSED	07170-03205	12,19	58,42	10,41
	18	LONG CURVED - FLAT	07150-05005	12,19	56,64	6,10	18	LONG CURVED - RECESSED	07170-03305	12,19	56,64	10,41
5/32" BRIV St. Steel only	19	STANDARD - FLAT	07150-03005	12,19	33,02	6,10	19	STANDARD - RECESSED	07170-03005	12,19	33,53	10,41
	20	LONG - FLAT	07150-04005	12,19	58,42	6,10	20	LONG - RECESSED	07170-03205	12,19	58,42	10,41
	20	LONG CURVED - FLAT	07150-05005	12,19	56,64	6,10	20	LONG CURVED - RECESSED	07170-03305	12,19	56,64	10,41
3/16" BRIV Al. Alloy, Brass, Steel	21	STANDARD - FLAT	07150-03006	14,22	29,97	8,38	21	STANDARD - RECESSED	07170-03006	14,22	30,48	11,94
	22	LONG - FLAT	07150-04006	14,22	58,42	8,38	22	LONG - RECESSED	07170-03206	14,22	58,42	11,94
	22	LONG CURVED - FLAT	07150-05006	14,22	56,13	8,38	22	LONG CURVED - RECESSED	07170-03306	14,22	56,13	11,94
3/16" BRIV St. Steel only	23	STANDARD - FLAT	07150-03006	14,22	29,97	8,38	23	STANDARD - RECESSED	07170-03006	14,22	30,48	11,94
	24	LONG - FLAT	07150-04006	14,22	58,42	8,38	24	LONG - RECESSED	07170-03206	14,22	58,42	11,94
	24	LONG CURVED - FLAT	07150-05006	14,22	56,13	8,38	24	LONG CURVED - RECESSED	07170-03306	14,22	56,13	11,94
6mm BRIV Al. Alloy, Steel	25	STD. CAM OPERATED	07170-05600	16,33	30,65	13,14	25	STANDARD - FLAT	07170-05800	16,33	30,65	13,14
	26	LONG CAM OPERATED	07170-05700	16,33	55,65	13,14	26	LONG - FLAT	07170-05900	16,33	55,65	13,14
3/32" AVLUG	27	STANDARD - FLAT	07150-03003	9,14	33,02	4,06	27	STANDARD - TAPERED	07150-03103	9,14	33,02	4,06
	27	STD. CAM OPERATED - FLAT	07170-04500	9,14	33,02	4,06	28	LONG - FLAT	07150-04003	10,41	58,42	4,06
	28	LONG CURVED - FLAT	07150-05003	10,41	57,91	4,06	-	-	-	-	-	-
1/8" AVLUG	29	STANDARD - FLAT	07150-03004	10,41	29,97	5,08	29	STANDARD - TAPERED	07170-03104	10,41	30,23	5,08
	29	STD. CAM OPERATED - FLAT	07170-04600	10,41	29,97	5,08	30	LONG - FLAT	07150-04004	10,41	55,37	5,08
	30	LONG CURVED - FLAT	07150-05004	10,41	53,85	5,08	30	LONG CAM OPERATED - FLAT	07170-05000	10,41	55,37	5,08
2,5mm 4.40 UNC AVSERT	31	STANDARD - FLAT	07150-03003	9,14	33,02	4,06	-	-	-	-	-	-
3,0mm 6.32 UNC AVSERT	32	STANDARD - FLAT	07150-03004	10,41	29,97	5,08	32	STD. CAM OPERATED - FLAT	07170-04600	10,41	29,97	5,08
2,5mm AVTRONIC	33	STANDARD - FLAT	07150-03003	9,14	33,02	4,06	33	LTD. ACCESS CAM OPERATED	07271-0800	10,41	29,97	4,06
	34	LONG - FLAT	07150-04003	10,41	58,42	4,06	-	-	-	-	-	-
2,8mm AVTRONIC	35	STANDARD - FLAT	07271-05600	9,14	33,02	4,06	36	LTD. ACCESS CAM OPERATED	07271-08100	10,16	29,97	4,06
	37	LONG - FLAT	07271-05900	10,41	58,42	4,06	-	-	-	-	-	-
2,8mm RIVSCREW	38	STD. CAM OPERATED - HF	07271-03000	10,41	29,97	6,10	-	-	-	-	-	-
3,0mm RIVSCREW	39	STD. CAM OPERATED - HF	07271-03000	10,41	29,97	6,10	-	-	-	-	-	-
3,5mm RIVSCREW	40	STD. CAM OPERATED - HF	07271-03500	10,41	29,97	6,10	-	-	-	-	-	-
4,0mm RIVSCREW	41	STD. CAM OPERATED - HF	07271-04000	10,41	29,97	6,35	-	-	-	-	-	-

These nose jaws are suitable for placing Chobert rivets with a Universal Head Form. When used on the equivalent size of Briv, the highest possible clench is achieved.

MANDREL/MANDREL FOLLOWER SPRINGS

Tables below list part numbers of all mandrels and mandrel follower springs available per fastener or group of fasteners, i.e. for Chobert and Grovit on these pages.

While fastener size are always shown in their specified units, each table has been produced twice to offer dimensions in imperial units on the left-

Hand page then in metric units on the right-hand page. These 'MandrelSelection' tables cross-reference with the 'Nose Jaw Selection' tables

It is the diameter of the head at the end of a mandrel which when pulled through controls the expansion of the fastener body.

While there are different head shapes to suit different types of fasteners, progressive head sizes are needed to reflect

Manufacturing tolerances on the diameter of the hole in your application so that the fastener always expands sufficiently fill the hole.

Too large a mandrel head would overstress the mandrel and mandrels which fail during use could forcibly exit the tool.

Selection tables are arranged into four 'mandrel size' sections, ranging from 'standard' to '3rd oversize', each being colour coded as per the end of the mandrel heads themselves.

Mandrels and mandrel follower springs, need to be selected to suit the fastener type and size as well as the size of the hole in

The application. Use of the wrong mandrel could increase the risk of breakage and the wear of the mandrel head.

Feeding problems could occur if the wrong mandrel follower spring is used.

IMPORTANT

Read the Safety rules carefully

While a small amount of wear and marking will naturally occur through normal and correct use of mandrels, they must be regularly examined for excessive wear and marking, with particular attention to the head diameter, the tail jaw gripping area of the shank or heavy pitting of the shank and any mandrel distortion. Mandrels which fail during use could forcibly exit the tool. It is the customer's responsibility to ensure that mandrels are replaced before any excessive levels of wear and always before the maximum recommended number of placings. Contact your Avdel Deutschland GmbH representative who will let you know what that figure is by measuring the broach load of your application with our calibrated measuring tool. These tools can also be purchased under part number 07900-09080, supplied with all necessary information for testing.

(5) Equipment

Speed fastening system
Part No.: 7539-300X series

CHOBERT AND GROVIT

IMPERIAL

FASTENER	REF. N°	HOLE SIZE	STANDARD MANDREL - GREEN					HOLE SIZE	1ST OVERSIZE MANDREL - YELLOW					SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°	P MAX.	
3/32" CHOBERT & GROVIT	1	AS REC.	,0725	07150-06003	,166	07150-08003	,071	+0,015	,074	07150-06303	,174	-	-	07150-06803
	1	-	-	-	-	-	-	+0,0035	,076	-	-	07150-08103	,078	07150-06803
	2	AS REC.	,0725	07150-06003	,166	07150-08003	,071	+0,015	,074	07150-06303	,174	-	-	07170-06873
	2	-	-	-	-	-	-	+0,0035	,076	-	-	07150-08103	,078	07170-06873
	3	AS REC.	,0725	07150-06003	,166	07150-08003	,071	+0,015	,074	07150-06303	,174	-	-	07170-06903
	3	-	-	-	-	-	-	+0,0035	,076	-	-	07150-08103	,078	07170-06903
1/8" CHOBERT & GROVIT	4	AS REC.	,0725	07150-07003	,166	07150-09003	,071	+0,0035	,076	-	-	07150-09103	,078	07150-07803
	5	AS REC.	,088	07150-06004	,216	07150-08004	,090	+0,004	,092	07150-06104	,237	07150-08104	,098	07150-06804
5/32" CHOBERT & GROVIT	6	AS REC.	,088	07150-07004	,216	07150-09004	,090	+0,004	,092	07150-07104	,237	07150-09104	,098	07150-07804
	7	AS REC.	,107	07150-06005	,244	07150-08005	,100	+0,008	,115	07150-06105	,284	07150-08105	,116	07170-06875
	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	8	AS REC.	,107	07150-07005	,244	07150-09005	,100	+0,008	,115	07150-07105	,284	07150-09105	,116	07170-07875
3/16" CHOBERT & GROVIT	8	-	-	-	-	-	-	-	-	-	-	-	-	-
	9	AS REC.	,132	07150-06006	,247	07150-08006	,102	+0,014	,146	07150-06106	,320	07150-08106	,130	07170-06876
	9	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	AS REC.	,132	07150-07006	,247	07150-09006	,102	+0,014	,146	07150-07106	,320	07150-09106	,130	07170-07876
1/4" CHOBERT	10	-	-	-	-	-	-	-	-	-	-	-	-	-
	11	AS REC.	,184	07150-06008	,268	07150-08008	,110	+0,012	,196	07150-06108	,330	07150-08108	,134	07150-06808
1/4" CHOBERT	12	AS REC.	,184	07150-07008	,268	07150-09008	,110	+0,012	,196	07150-07108	,330	07150-09108	,134	07150-07808

FASTENER	REF. N°	HOLE SIZE	2 ND OVERSIZE MANDREL - BLUE					HOLE SIZE	3 RD OVERSIZE MANDREL - RED					SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°	P MAX.	
3/32" CHOBERT & GROVIT	1	+0,0035	,076	07150-06103	,185	-	-	-	-	-	-	-	-	07150-06803
	1	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	+0,0035	,076	07150-06103	,185	-	-	-	-	-	-	-	-	07170-06873
	2	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	+0,0035	,076	07150-06103	,185	-	-	-	-	-	-	-	-	07170-06903
	3	-	-	-	-	-	-	-	-	-	-	-	-	-
1/8" CHOBERT & GROVIT	4	+0,0035	,076	07150-07103	,185	-	-	-	-	-	-	-	-	07150-07803
	5	+0,010	+0,098	07150-06204	,268	07150-08204	,110	+0,014	,102	07150-06304	,288	07150-08304	,118	07150-06804
5/32" CHOBERT & GROVIT	6	+0,010	+0,098	07150-07204	,268	07150-09204	,110	+0,014	,102	07150-07304	,288	07150-09304	,118	07150-07804
	7	+0,015	,122	07150-06205	,320	07150-08205	,130	-	-	-	-	-	-	07170-06875
	7	-	-	-	-	-	-	+0,025	,132	07150-06305	,372	07150-08305	,150	07150-06805
	8	+0,015	,122	07150-07205	,320	07150-09205	,130	-	-	-	-	-	-	07170-07875
3/16" CHOBERT & GROVIT	8	-	-	-	-	-	-	+0,025	,132	07150-07305	,372	07150-09305	,150	07150-07805
	9	-	-	-	-	-	-	-	-	-	-	-	-	-
	9	+0,024	,156	07150-06206	,372	07150-08206	,150	-	-	-	-	-	-	07150-06806
	10	-	-	-	-	-	-	-	-	-	-	-	-	-
1/4" CHOBERT	10	+0,024	,156	07150-07206	,372	07150-09206	,150	-	-	-	-	-	-	07150-07806
	11	-	-	-	-	-	-	-	-	-	-	-	-	-
1/4" CHOBERT	12	-	-	-	-	-	-	-	-	-	-	-	-	-

(5) Equipment

Speed fastening system
Part No.: 7539-300X series

CHOBERT AND GROVIT

METRIC

FASTENER	REF. N°	HOLE SIZE	STANDARD MANDREL - GREEN					1 ST OVERSIZE MANDREL - YELLOW					SPRING PART N°	
			HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°	P MAX.	HOLE SIZE	HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°		P MAX.
3/32" CHOBERT & GROVIT	1	AS REC.	1,84	07150-06003	4,22	07150-08003	1,80	+04	1,88	07150-06303	4,42	-	-	07150-06803
	1	-	-	-	-	-	-	+09	1,93	-	-	07150-08103	1,98	07150-06803
	2	AS REC.	1,84	07150-06003	4,22	07150-08003	1,80	+04	1,88	07150-06303	4,42	-	-	07170-06873
	2	-	-	-	-	-	-	+09	1,93	-	-	07150-08103	1,98	07170-06873
	3	AS REC.	1,84	07150-06003	4,22	07150-08003	1,80	+04	1,88	07150-06303	4,42	-	-	07170-06903
	3	-	-	-	-	-	-	+09	1,93	-	-	07150-08103	1,98	07170-06903
1/8" CHOBERT & GROVIT	4	AS REC.	1,84	07150-07003	4,22	07150-09003	1,80	+09	1,93	-	-	07150-09103	1,98	07150-07803
	5	AS REC.	2,24	07150-06004	5,49	07150-08004	2,29	+10	2,34	07150-06104	6,02	07150-08104	2,49	07150-06804
5/32" CHOBERT & GROVIT	6	AS REC.	2,24	07150-07004	5,49	07150-09004	2,29	+10	2,34	07150-07104	6,02	07150-09104	2,49	07150-07804
	7	AS REC.	2,72	07150-06005	6,20	07150-08005	2,54	+20	2,92	07150-06105	7,21	07150-08105	2,95	07170-06875
3/16" CHOBERT & GROVIT	7	-	-	-	-	-	-	-	-	-	-	-	-	-
	8	AS REC.	2,72	07150-07005	6,20	07150-09005	2,54	+20	2,92	07150-07105	7,21	07150-09105	2,95	07170-07875
1/4" CHOBERT	8	-	-	-	-	-	-	-	-	-	-	-	-	-
	9	AS REC.	3,35	07150-06006	6,27	07150-08006	2,59	+35	3,71	07150-06106	8,13	07150-08106	3,30	07170-06876
	9	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	AS REC.	3,35	07150-07006	6,27	07150-09006	2,59	+35	3,71	07150-07106	8,13	07150-09106	3,30	07170-07876
1/4" CHOBERT	10	-	-	-	-	-	-	-	-	-	-	-	-	-
	11	AS REC.	4,67	07150-06008	6,81	07150-08008	2,79	+30	4,98	07150-06108	8,38	07150-08108	3,40	07150-06808
	12	AS REC.	4,67	07150-07008	6,81	07150-09008	2,79	+30	4,98	07150-07108	8,38	07150-09108	3,40	07150-07808

FASTENER	REF. N°	HOLE SIZE	2 ND OVERSIZE MANDREL - BLUE					3 RD OVERSIZE MANDREL - RED					SPRING PART N°	
			HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°	P MAX.	HOLE SIZE	HEAD Ø	MANDREL PART N°	P MAX.	# S/R MANDREL PART N°		P MAX.
3/32" CHOBERT & GROVIT	1	+09	1,93	07150-06103	4,70	-	-	-	-	-	-	-	-	07150-06803
	1	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	+09	1,93	07150-06103	4,70	-	-	-	-	-	-	-	-	07170-06873
	2	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	+09	1,93	07150-06103	4,70	-	-	-	-	-	-	-	-	07170-06903
	3	-	-	-	-	-	-	-	-	-	-	-	-	-
1/8" CHOBERT & GROVIT	4	+09	1,93	07150-07103	4,70	-	-	-	-	-	-	-	-	07150-07803
	5	+25	2,49	07150-06204	6,81	07150-08204	2,79	+35	2,59	07150-06304	7,32	07150-08304	3,00	07150-06804
5/32" CHOBERT & GROVIT	6	+25	2,49	07150-07204	6,81	07150-09204	2,79	+35	2,59	07150-07304	7,32	07150-09304	3,00	07150-07804
	7	+38	3,10	07150-06205	8,13	07150-08205	3,30	-	-	-	-	-	-	07170-06875
	7	-	-	-	-	-	-	+63	3,35	07150-06305	9,45	07150-08305	3,81	07150-06805
	8	+38	3,10	07150-07205	8,13	07150-09205	3,30	-	-	-	-	-	-	07170-07875
3/16" CHOBERT & GROVIT	8	-	-	-	-	-	-	+63	3,35	07150-07305	9,45	07150-09305	3,81	07150-07805
	9	-	-	-	-	-	-	-	-	-	-	-	-	-
	9	+60	3,96	07150-06206	9,45	07150-08206	3,81	-	-	-	-	-	-	07150-06806
1/4" CHOBERT	10	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	+60	3,96	07150-07206	9,45	07150-09206	3,81	-	-	-	-	-	-	07150-07806
1/4" CHOBERT	11	-	-	-	-	-	-	-	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	-	-	-	-

(5) Equipment

Speed fastening system
Part No.: 7539-300X series

To find the correct part number of a mandrel for a particular application, read the instructions below after you have gathered the following information as per example alongside. Answers for the example are shown in grey italic.

FASTENER NAME	example	Chobert
FASTENER SIZE		1/8"
DATASHEET		
APPLICATION HOLE SIZE		0,1335"
CLEARANCE BEHIND APPLICATION		
'REF.N°' FROM NOSE JAW SELECTION TABLE		5 (Standard flat)

- ▶ Subtract the minimum hole size recommended (AS REC.) in the fastener datasheet from the actual application hole size. example: 0,005
Turn to the page with the 'Mandrel Selection' table for your fastener, selecting either the imperial or the metric dimensions table (pages 16-22). example: page 17.
- ▶ Starting in the 'Standard Mandrel – Green' section, find your fastener size in the left hand column. Example: 1/8" Chobert & Grovit
- ▶ If you selected a nose jaw which can place your fastener, you should now be able to find a line within your fastener section with the same 'REF. N°' as that from the 'Nose Jaw Selection' table. example: 5
This is your line 'REF. N°' in which you will find both your mandrel and mandrel follower spring part number. This line continues into the second half of the table for '2nd' and '3rd' oversize mandrels.
- ▶ Scan along that line to the 'hole size' columns and select whichever is nearest or equal to the figure calculated in step one. You may now read the mandrel part number next to the 'hole size'. example: 07150-06104
- ▶ For Chobert and Grovit only, most mandrels are also available in a 'short reach' version (see illustration on page 20). Short reach mandrels are used to minimise the possibility of the mandrel head contacting a rear obstruction. This would result in the underside of the fastener head not seating properly on the application surface, causing a lack of clench in the joint.
- ▶ Whichever size of mandrel you settle on, you will also need to check that the 'P' figure against that mandrel is adequate. 'P' is the clearance required for the mandrel head at the back of the application IN ADDITION to the length of the fastener protruding through the application, as shown in the drawing on page 20.
- ▶ You may now read the corresponding mandrel follower spring part number in the right-hand column of the table. example: 07150-06801

In all cases, satisfactory clenching of the joint should be assessed particularly if the size of the hole in your application is very close to the next oversize hole condition, when it will be safe to select the greater size of mandrel to obtain a higher clench. REMEMBER that this will increase the broach load and reduce the mandrel life .

BRIV **IMPERIAL**

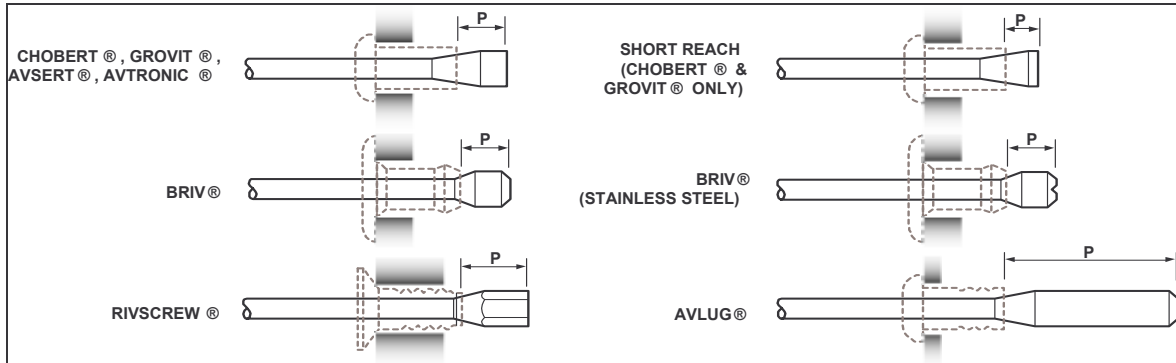
For mandrel or mandrel follower spring selection, follow instruction above.

FASTENER	REF. N°	HOLE SIZE	STANDARD MANDREL - GREEN			HOLE SIZE	1ST OVERSIZE MANDREL - YELLOW			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
3/32" BRIV Brass only	13	AS REC.	.072	07150-06013	.119	+0.04	.076	07150-06113	.123	07170-06873
	14	AS REC.	.072	07150-06013	.119	+0.04	.076	07150-06113	.123	07170-06903
1/8" BRIV Al. Alloy. Brass,Steel	15	AS REC.	.092	07271-06414	.120	+0.05	.097	07271-06514	.126	07150-06814
	16	AS REC.	.092	07271-07414	.120	+0.05	.097	07271-07514	.126	07150-07814
5/32" Briv Al. Alloy. Brass,Steel	17	AS REC.	.110	07150-06015	.136	+0.05	.115	07150-06115	.142	07170-06875
	18	AS REC.	.110	07150-07015	.136	+0.05	.115	07150-07115	.142	07170-07875
5/32" BRIV ST. Steel only	19	AS REC.	.120	07170-06805	.126	+0.05	.125	07170-06825	.132	07170-06875
	20	AS REC.	.120	07170-07805	.126	+0.05	.125	07170-07825	.132	07170-07875
3/16"BRIV Al. Alloy. Brass,Steel	21	AS REC.	.141	07150-06016	.157	+0.05	.146	07150-06116	.164	07170-06876
	22	AS REC.	.141	07150-07016	.157	+0.05	.146	07150-07116	.164	07170-07876
3/16"BRIV ST. Steel only	23	AS REC.	.153	07170-06806	.150	+0.05	.158	07170-06826	.156	07170-06876
	24	AS REC.	.153	07170-07806	.150	+0.05	.158	07170-07826	.156	07170-07876
6mm BRIV Al.Alloy, Steel	25	AS REC.	.179	07150-06018	.165	+0.05	.184	07150-06118	.171	07150-06808
	26	AS REC.	.179	07150-07018	.165	+0.05	.184	07150-07118	.171	07150-07808

FASTENER	REF. N°	HOLE SIZE	2 ND OVERSIZE MANDREL - BLUE			HOLE SIZE	3 RD OVERSIZE MANDREL - RED			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
3/32" BRIV Brass only	13	+0.08	.079	07150-06213	.126	-	-	-	-	07170-06873
	14	+0.08	.079	07150-06213	.126	-	-	-	-	07170-06903
1/8" BRIV Al. Alloy. Brass,Steel	15	+0.10	.102	07271-06614	.133	-	-	-	-	07150-06814
	16	+0.10	.102	07271-07614	.133	-	-	-	-	07150-07814
5/32" Briv Al. Alloy. Brass,Steel	17	+0.10	.120	07150-06215	.149	-	-	-	-	07170-06875
	18	+0.10	.120	07150-07215	.149	-	-	-	-	07170-07875
5/32" BRIV ST. Steel only	19	-	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-	-
3/16"BRIV Al. Alloy. Brass,Steel	21	+0.10	.151	07150-06216	.170	+0.12	.153	07150-06316	.173	07170-06876
	22	+0.10	.151	07150-07216	.170	+0.12	.153	07150-07316	.173	07170-07876
3/16"BRIV ST. Steel only	23	-	-	-	-	-	-	-	-	-
	24	-	-	-	-	-	-	-	-	-
6mm BRIV Al.Alloy, Steel	25	+0.10	.189	07150-06218	.177	-	-	-	-	07150-06808
	26	+0.10	.189	07150-07218	.177	-	-	-	-	07150-07808

(5) Equipment

Speed fastening system
Part No.: 7539-300X series



Mandrel head types and 'P' length.

Mandrels for stainless steel Briv are easily identifiable by a 'V' cut in the end of mandrel heads.

When using curved nose jaws, mandrels have to be bent by hand to match the curvature of the nose jaw, this ensuring good feed of fasteners.

BRIV

METRIC

FASTENER	REF. N°	HOLE SIZE	STANDARD MANDREL - GREEN			HOLE SIZE	1ST OVERSIZE MANDREL - YELLOW			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
3/32" BRIV Brass only	13	AS REC.	1,83	07150-06013	3,02	+10	1,93	07150-06113	3,12	07170-06873
	14	AS REC.	1,83	07150-06013	3,02	+10	1,93	07150-06113	3,12	07170-06903
1/8" BRIV Al. Alloy. Brass,Steel	15	AS REC.	2,34	07271-06414	3,05	+13	2,46	07271-06514	3,20	07150-06814
	16	AS REC.	2,34	07271-07414	3,05	+13	2,46	07271-07514	3,20	07150-07814
5/32" Briv Al. Alloy. Brass,Steel	17	AS REC.	2,79	07150-06015	3,45	+13	2,92	07150-06115	3,61	07170-06875
	18	AS REC.	2,79	07150-07015	3,45	+13	2,92	07150-7115	3,61	07170-07875
5/32" BRIV ST. Steel only	19	AS REC.	3,05	07170-06805	3,20	+13	3,18	07170-06825	3,35	07170-06875
	20	AS REC.	3,05	07170-07805	3,20	+13	3,18	07170-07825	3,35	07170-07875
3/16"BRIV Al. Alloy. Brass,Steel	21	AS REC.	3,58	07150-06016	3,99	+13	3,71	07150-06116	4,17	07170-06876
	22	AS REC.	3,58	07150-07016	3,99	+13	3,71	07150-07116	4,17	07170-07876
3/16"BRIV ST. Steel only	23	AS REC.	3,89	07170-06806	3,81	+13	4,01	07170-06826	3,96	07170-06876
	24	AS REC.	3,89	07170-07806	3,81	+13	4,01	07170-07826	3,96	07170-07876
6mm BRIV Al.Alloy, Steel	25	AS REC.	4,54	07150-06018	4,18	+13	4,67	07150-06118	4,34	07150-06808
	26	AS REC.	4,54	07150-07018	4,18	+13	4,67	07150-07118	4,34	07150-07808
FASTENER	REF. N°	HOLE SIZE	2 ND OVERSIZE MANDREL - BLUE			HOLE SIZE	3 RD OVERSIZE MANDREL - RED			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
3/32" BRIV Brass only	13	+20	2,01	07150-06213	3,20	-	-	-	-	07170-06873
	14	+20	2,01	07150-06213	3,20	-	-	-	-	07170-06903
1/8" BRIV Al. Alloy. Brass,Steel	15	+25	2,59	07271-06614	3,38	-	-	-	-	07150-06814
	16	+25	2,59	07271-07614	3,38	-	-	-	-	07150-07814
5/32" Briv Al. Alloy. Brass,Steel	17	+25	3,05	07150-06215	3,78	-	-	-	-	07170-06875
	18	+25	3,05	07150-07215	3,78	-	-	-	-	07170-07875
5/32" BRIV ST. Steel only	19	-	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-	-
3/16"BRIV Al. Alloy. Brass,Steel	21	+25	3,84	07150-06216	4,32	+30	3,85	07150-06316	4,39	07170-06876
	22	+25	3,84	07150-07216	4,32	+30	3,85	07150-07316	4,39	07170-07876
3/16"BRIV ST. Steel only	23	-	-	-	-	-	-	-	-	-
	24	-	-	-	-	-	-	-	-	-
6mm BRIV Al.Alloy, Steel	25	+25	4,79	07150-06218	4,49	-	-	-	-	07150-06808
	26	+25	4,79	07150-07218	4,49	-	-	-	-	07150-07808

(5) Equipment

Speed fastening system
Part No.: 7539-300X series

AVLUG, AVSERT, AVTRONIC & RIVSCREW

IMPERIAL

For mandrel or mandrel follower spring selection, follow instructions on page 16.

FASTENER	REF N°	HOLE SIZE	STANDARD MANDREL - GREEN			HOLE SIZE	1st OVERSIZE MANDREL -YELLOW			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
3/32" AVLUG	27	AS REC.	,076	07150-06603	,353	+005	,081	07150-06703	,478	07150-06803
	28	AS REC.	,076	07150-07603	,353	+003	,079	07150-07703	,368	07150-07803
1/8" AVLUG	29	AS REC.	,098	07150-06604	,593	-	-	-	-	07150-06804
	30	AS REC.	,098	07150-07604	,593	-	-	-	-	07150-07804
2,5mm, 4-40UNC AVSERT	31	AS REC.	,0725	07150-06003	,145	-	-	-	-	07150-06803
3,0mm, 6-32UNC AVSERT	32	AS REC.	,088	07150-06004	,185	-	-	-	-	07150-06804
2,5mm AVTRONIC	33	AS REC.	,070	07170-06025	,140	+003	,073	07170-06125	,140	07150-06803
	34	AS REC.	,070	07170-07025	,140	+003	,073	07170-07125	,140	07150-07803
2,8mm AVTRONIC	35	AS REC.	,079	07170-06028	,150	+003	,082	07170-06128	,150	07170-06528
	36	AS REC.	,079	07170-06028	,150	+003	,082	07170-06128	,150	07170-06873
	37	AS REC.	,079	07170-07028	,150	+003	,082	07170-07128	,150	07170-07528
2,8mm RIVSCREW	38	AS REC.	*,065	07271-06030	,127	-	-	-	-	07271-06630
3,0mm RIVSCREW	39	AS REC.	*,065	07271-06030	,127	-	-	-	-	07271-06630
3,5mm RIVSCREW	40	AS REC.	*,0825	07271-06035	,132	-	-	-	-	07271-06635
4,0mm RIVSCREW	41	AS REC.	*,103	07271-06140	,150	-	-	-	-	07271-06640

* These Dimensions are Across Flats

FASTENER	REF. N°	HOLE SIZE	STANDARD MANDREL - GREEN			HOLE SIZE	1 ST OVERSIZE MANDREL - YELLOW			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
3/32" AVLUG	27	-	-	-	-	-	-	-	-	-
	28	-	-	-	-	-	-	-	-	-
1/8" AVLUG	29	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-
2,5mm, 4-40UNC AVSERT	31	-	-	-	-	-	-	-	-	-
3,0mm, 6-32UNC AVSERT	32	-	-	-	-	-	-	-	-	-
2,5mm AVTRONIC	33	+006	076	07170-06225	,140	-	-	-	-	07150-06803
	34	+006	076	07170-07225	,140	-	-	-	-	07150-07803
2,8mm AVTRONIC	35	+006	085	07170-06228	,150	-	-	-	-	07170-06528
	36	+006	085	07170-06228	,150	-	-	-	-	07170-06873
	37	+006	085	07170-07228	,150	-	-	-	-	07170-07528
2,8mm RIVSCREW	38	-	-	-	-	-	-	-	-	-
3,0mm RIVSCREW	39	-	-	-	-	-	-	-	-	-
3,5mm RIVSCREW	40	-	-	-	-	-	-	-	-	-
4,0mm RIVSCREW	41	-	-	-	-	-	-	-	-	-

(5) Equipment

Speed fastening system
Part No.: 7539-300X series

AVLUG, AVSERT, AVTRONIC & RIVSCREW

METRIC

FASTENER	REF N°	HOLE SIZE	STANDARD MANDREL - GREEN			HOLE SIZE	1 ST OVERSIZE MANDREL - YELLOW			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
3/32" AVLUG	27	AS REC.	1,93	07150-06603	8,97	+ ,10	2,06	07150-06703	12,14	07150-06803
	28	AS REC.	1,93	07150-07603	8,97	+ ,10	2,01	07150-07703	9,35	07150-07803
1/8" AVLUG	29	AS REC.	2,49	07150-06604	15,06	-	-	-	-	07150-06804
	30	AS REC.	2,49	07150-07604	15,06	-	-	-	-	07150-07804
2,5mm, 4-40UNC AVSERT	31	AS REC.	1,84	07150-06003	3,68	-	-	-	-	07150-06803
3,0mm, 6-32UNC AVSERT	32	AS REC.	2,24	07150-06004	4,70	-	-	-	-	07150-06804
2,5mm AVTRONIC	33	AS REC.	1,78	07170-06025	3,56	+ ,07	1,85	07170-06125	3,56	07150-06803
	34	AS REC.	1,78	07170-07025	3,56	+ ,07	1,85	07170-07125	3,56	07150-07803
2,8mm AVTRONIC	35	AS REC.	2,01	07170-06028	3,81	+ ,07	2,08	07170-06128	3,81	07170-06528
	36	AS REC.	2,01	07170-06028	3,81	+ ,07	2,08	07170-06128	3,81	07170-06873
	37	AS REC.	2,01	07170-07028	3,81	+ ,07	2,08	07170-07128	3,81	07170-07528
2,8mm RIVSCREW	38	AS REC.	*1,65	07271-06030	3,23	-	-	-	-	07271-06630
3,0mm RIVSCREW	39	AS REC.	*1,65	07271-06030	3,23	-	-	-	-	07271-06630
3,5mm RIVSCREW	40	AS REC.	*2,10	07271-06035	3,35	-	-	-	-	07271-06635
4,0mm RIVSCREW	41	AS REC.	*2,62	07271-06140	3,81	-	-	-	-	07271-06640

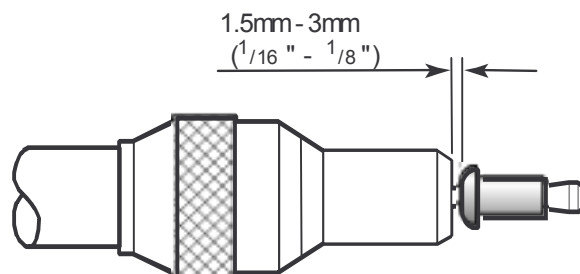
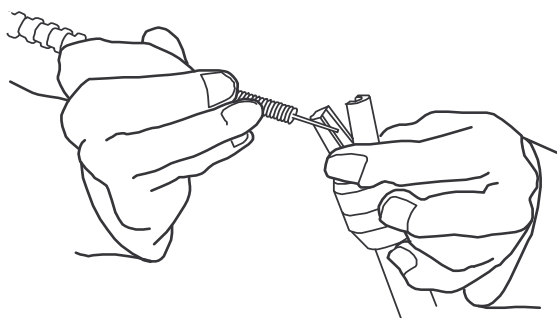
* These Dimensions are Across Flats

FASTENER	REF N°	HOLE SIZE	STANDARD MANDREL - GREEN			HOLE SIZE	1 ST OVERSIZE MANDREL - YELLOW			SPRING PART N°
			HEAD Ø	MANDREL PART N°	P MAX.		HEAD Ø	MANDREL PART N°	P MAX.	
3/32" AVLUG	27	-	-	-	-	-	-	-	-	-
	28	-	-	-	-	-	-	-	-	-
1/8" AVLUG	29	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-
2,5mm, 4-40UNC AVSERT	31	-	-	-	-	-	-	-	-	-
3,0mm, 6-32UNC AVSERT	32	-	-	-	-	-	-	-	-	-
2,5mm AVTRONIC	33	+ ,15	1,93	07170-06225	3,56	-	-	-	-	07150-06803
	34	+ ,15	1,93	07170-07225	3,56	-	-	-	-	07150-07803
2,8mm AVTRONIC	35	+ ,15	2,16	07170-06228	3,81	-	-	-	-	07170-06528
	36	+ ,15	2,16	07170-06228	3,81	-	-	-	-	07170-06873
	37	+ ,15	2,16	07170-07228	3,81	-	-	-	-	07170-07528
2,8mm RIVSCREW	38	-	-	-	-	-	-	-	-	-
3,0mm RIVSCREW	39	-	-	-	-	-	-	-	-	-
3,5mm RIVSCREW	40	-	-	-	-	-	-	-	-	-
4,0mm RIVSCREW	41	-	-	-	-	-	-	-	-	-

(6) Operation

INSTALLATION

- ▶ Connect the air supply to the tool.
- ▶ Open tail jaws **16** which grip the mandrel, by switching off the tail jaw switch (items **33** & **37**). (See page 27)
- ▶ Screw selected nose jaws onto barrel **31** of the tool. (See page 27)
- Insert a mandrel into the tail end of the fasteners through the paper pod.
- ▶ Slide the mandrel follower spring onto the mandrel ENSURING correct orientation, as shown in the mandrel orientation table
- ▶ Gripping the tail end of the mandrel, tear off the paper pod from around the fasteners.
- ▶ Open the nose jaws either by rotating the outer ring on Cam operated jaws or by pushing outwards on the jaw ends, as illustrated below left.
- ▶ Insert the previously assembled mandrel, mandrel follower spring and fasteners into the nose jaws until the first fastener to be placed is protruding from the nose jaw.
- ▶ Close the nose jaws and adjust so that the first fastener protrudes by 1.5mm – 3mm ($1/16''$ to $1/8''$), as shown in the illustration below right.
- ▶ Close the tail jaws to ensure the mandrel is gripped.



RELOADING THE TOOL

- ▶ Open tail jaws **16** of tool. (See page 27)
- ▶ Open the nose jaws and pull the empty mandrel and mandrel follower spring out of the tool.
- ▶ Reload the tool by following the above instructions, starting at stage →.

ENGINEERING

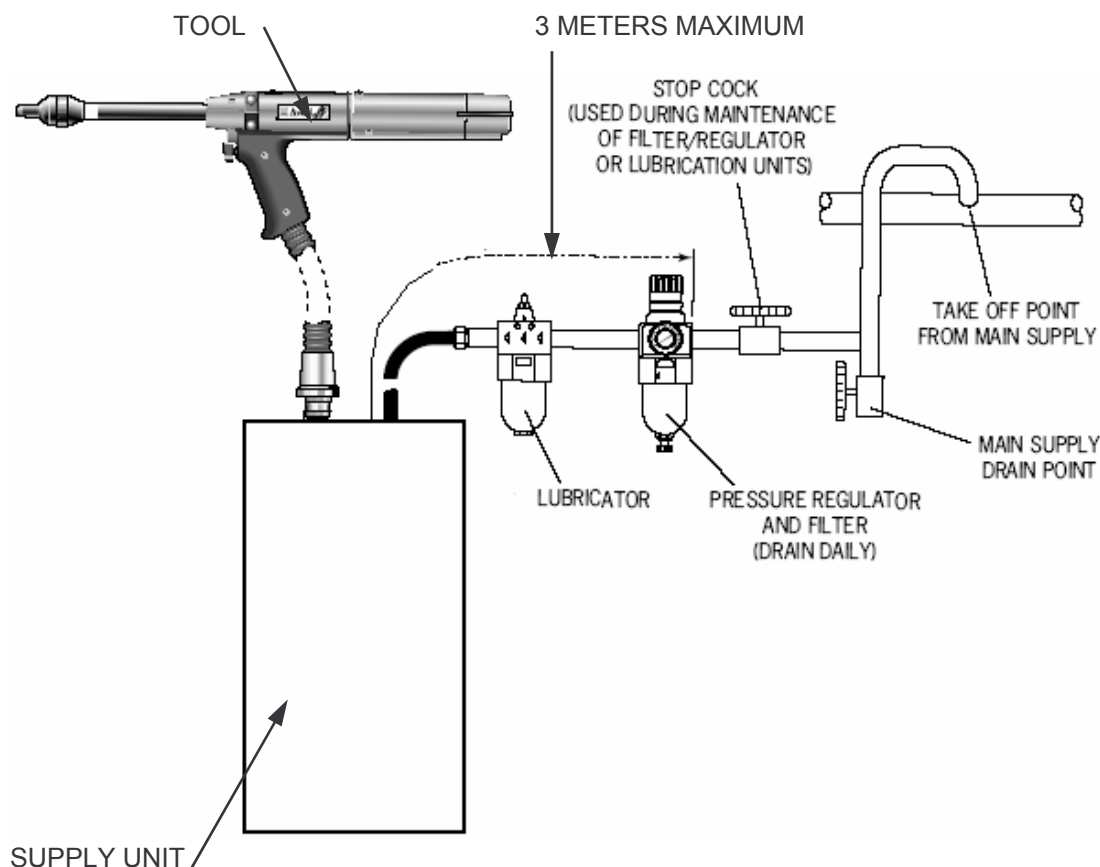
Starting the machine



Before starting the Speed fasteners system pay attention to the following points

All tools are operated with compressed air at an optimum pressure of 5.5 bar. We recommend the use of pressure regulators and automatic oiling/filtering systems on the main air supply. To ensure maximum tool life and minimum tool maintenance they should be fitted within 3 metres of the tool (see diagram below).

Air supply hoses should have a minimum effective pressure rating of 150% of the maximum pressure produced in the system or 10 bar, whichever is the highest. Air hoses should be oil resistant, have an abrasion resistant exterior and should be armoured where operating conditions may result in hoses being damaged. All air supply hoses MUST have a minimum bore diameter of 6.4 millimeters or ¼ inch.



Follow the steps below when connecting the tool to the supply unit with intensifier and main air supply

- Push the end of the large hydraulic hose from the tool into the quick release connector on the end of the supply unit
- Fit a pneumatic hose between the male connector at the supply unit and main supply.

MAINTENANCE/REPAIR



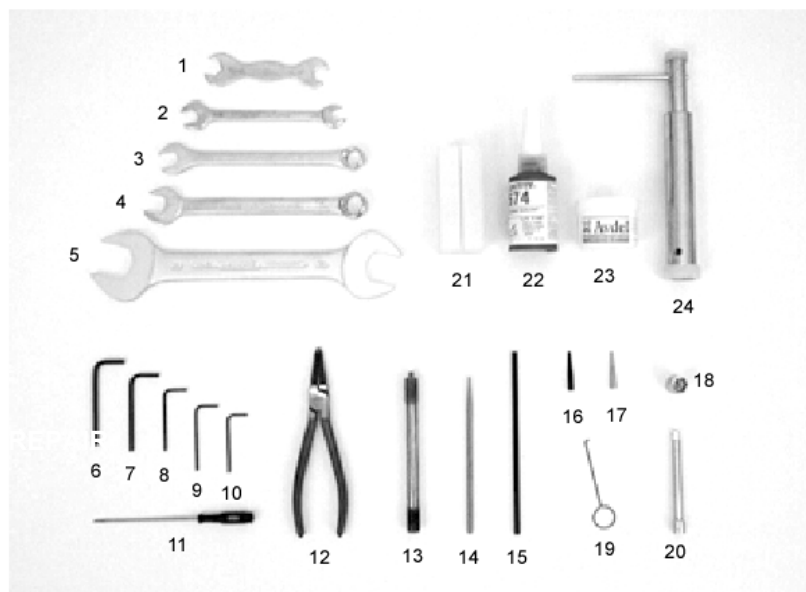
Machine must be secured against being switched back on before any maintenance or repair work is carried out !



Any maintenance or repair work be done by specialized and introduced staff!

For all servicing we recommend the use of the service kit below (part number 07900-05300) .

SERVICE KIT					
ITEM PART N°	DESCRIPTION	POS.	ITEM PART N°	DESCRIPTION	POS.
07900-00157	CIRCLIP PLIERS	12	07900-00352	SEAL REMOVAL HOOK	19
07900-00006	SPATULA	14	07900-00604	13mm SOCKET	18
07900-00446	EXTRACTOR	13	07900-00605	¼" SQUARE DRIVE EXTENSION BAR	20
07900-00603	BARREL VICE JAWS	21	07900-00243	SCREWDRIVER	17
07900-00725	BULLET	17	07900-00488	INTENSIFIER SPANNER	24
07900-00521	¼ ROD	15	07900-00013	1/8" ALLEN KEY	10
07900-00602	'O' RING ASSEMBLY BULLET	16	07900-00617	LOCTITE MULTI -GASKET 574	22
07900-00595	18mm SPANNER	4	07900-00469	2,5mm ALLEN KEY	9
07900-00434	32mm SPANNER	5	07900-00351	3mm ALLEN KEY	8
07900-00237	3/8" x 5/16" B.S.W. SPANNER	3	07900-00224	4mm ALLEN KEY	7
07900-00012	9/16" x 5/8" SPANNER	1	07900-00225	5mm ALLEN KEY	6
07900-00008	7/16" x ½" SPANNER	2	07900-00020	80g TIN MOLY LITHIUM GREASE EP 3753	23



MAINTENANCE / REPAIR



The machine must be secured against being switched back on before any maintenance or repair work is carried out!



Any maintenance or repair work must be done by specialized and introduced staff!

The following maintenance work must be done periodically:

DAILY

- ▶ Daily, before use or when first putting the tool into service, pour a few drops of clean, light lubricating oil into the air inlet of the intensifier if no lubricator is fitted on air supply. If the tool is in continuous use, the air hose should be disconnected from the main air supply and the tool lubricated every two to three hours.
- ▶ Check for air and oil leaks. If damaged, hoses and couplings should be replaced. If there is no filter on the pressure regulator, bleed the airline to clear it of accumulated dirt or water before connecting the air hose to intensifier. If there is a filter, drain it.
- ▶ Check that the nose equipment is correct.
- ▶ Check the mandrels regularly for signs of wear or damage monitoring the number of placings.

WEEKLY

- ▶ Remove, inspect, clean and grease the tail jaws.
- ▶ Check that the oil level in the intensifier reservoir is approximately 1/2" below the transparent cover plate

(6) Operation

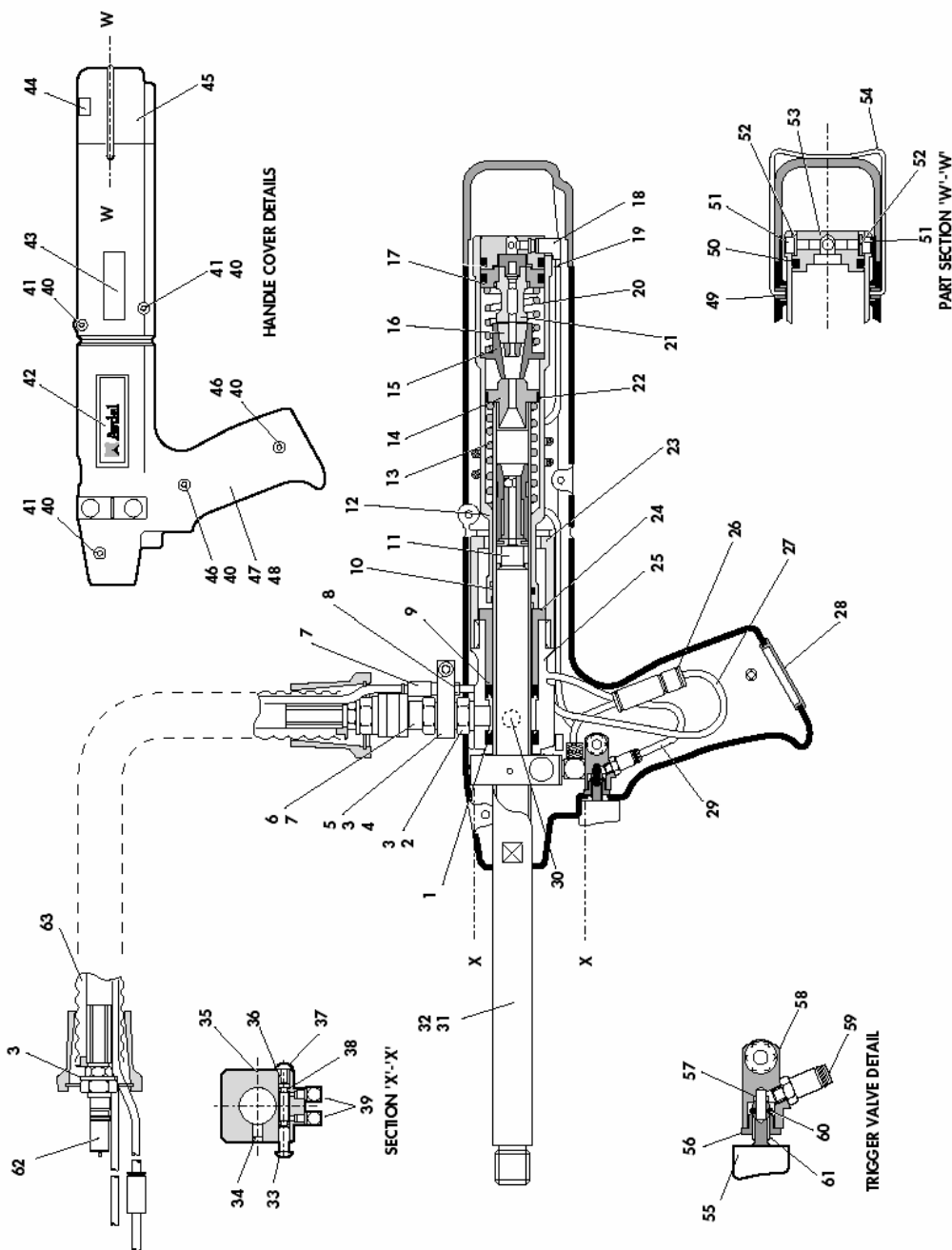
MAINTENANCE / REPAIR



The machine must be secured against being switched back on before any maintenance or repair work is carried out!



Any maintenance or repair work must be done by specialized and introduced staff!



07532-02200 PARTS LIST

ITEM	PART N°	DESCRIPTION	QTY	SPARES	ITEM	PART N°	DESCRIPTION	QTY	SPARES
1	07003-00237	SEAL (STATIC)	1	-	33	07004-00058	1/8" STARLOCK WASHER CHROME	1	-
2	07532-00203	ADAPTOR TOP HOSE	1	-	34	07001-00404	M5 X 6 LONG SOCKET HEAD SCREW	1	-
3	07003-00142	1/8" BSP BONDED SEAL	4	-	35	07530-02301	SWITCH BLOCK	1	-
4	07532-02202	SUSPENSION MOUNTING PLATE	1	-	36	07530-02302	AIR TAIL JAW SPOOL	1	-
5	07532-00205	MODIFIED SCREW	1	-	37	07004-00059	1/8" STARLOCK WASHER BLACK	1	-
6	07005-00759	SELF CLOSING COUPLER	1	-	38	07003-00121	'O' RING	2	-
7	07005-01357	COLLET TYPE CONNECTOR	3	-	39	07005-01571	ELBOW CONNECTOR	2	-
8	07005-01325	BARBED STRAIGHT CONNECTOR	2	-	40	07002-00134	M4 HEX NUT	5	-
9	07003-00236	SEAL (DYNAMIC)	1	-	41	07001-00401	M4 X 10 LONG SOCKET HEAD CAP SCREW	3	-
10	07003-00167	'O' RING	1	-	42	07530-02210	LABEL	1	-
11	07271-01100	MECHANICAL CURSOR ASSEMBLY	1	-	43	07007-01504	CE MARK LABEL	1	-
12	07530-02207	TAIL JAW CYLINDER	1	-	44	07007-01503	BOOK SYMBOL LABEL	1	-
13	07490-03002	BARREL RETURN SPRING	1	-	45	07530-02603	END CAP	1	-
14	07530-02205	BARREL PLUG	1	-	46	07001-00262	M4 X 22 LONG SOCKET HEAD CAP SCREW	2	-
15	07530-00208	JAW HOUSING	1	-	47	07532-02208	MODIFIED HANDLE MOULDING (RIGHT)	1	-
16	07151-00403	JAWS	1	-	48	07532-02209	MODIFIED HANDLE MOULDING (LEFT)	1	-
17	07003-00113	'O' RING	1	-	49	01810-02136	BRIV RIVET	2	-
18	07005-01972	L TYPE THREADED NIPPLE	1	-	50	07003-00113	'O' RING	1	-
19	07530-02211	AIR TAIL JAW CONCERTINA TUBE	1	-	51	07005-01504	M4 X 6 LONG SOCKET HEAD CAP SCREW	2	-
20	07154-00404	SPRING	1	-	52	07002-00153	M4 WASHER PLASTIC	2	-
21	07530-02800	TAIL JAW PISTON ASSEMBLY	1	-	53	07530-02213	REAR PLUG	1	-
22	07530-00206	RUBBING STRIP	1	-	54	07530-02220	CLIP	1	-
23	07530-00204	STROKE LIMITER	1	-	55	07007-00300	TRIGGER BUTTON	1	-
24	07530-00203	PISTON	1	-	56	07220-00803	RETAINER	1	-
25	07530-02202	BODY	1	-	57	07125-00215	SPRING	1	-
26	07005-01973	NON-RETURN VALVE	1	-	58	07530-02311	TRIGGER HOUSING	1	-
27	07005-01083	4mm O/D BLACK PLASTIC TUBE	A/R	-	59	07005-01357	COLLET TYPE CONNECTOR	1	-
28	07532-02215	SEALING PLUG	1	-	60	07003-00022	'O' RING	1	-
29	07005-01084	4mm O/D BLACK PLASTIC TUBE	A/R	-	61	07241-00208	SPINDLE	1	-
30	07530-00500	BLEED PLUG ASSEMBLY	1	-	62	07005-00760	QUICK RELEASE NIPPLE	1	-
31	07530-02201	BARREL	1	-	63	07008-00414	HYDRAULIC HOSE ASSEMBLY	1	-
32	07007-00017	DUST CAP	1	-					

STORAGE/TRANSPORT

Transport data

The dimensions and other data of the Speed fasteners system are in the chapter Specifications as well as in the chapter Machine plans.

Load and unload



During transport, load and unload do not tilt the machine. For transport of dangerous substances pay attention to the valid laws and instructions of your country.

The Speed fasteners system is supplied with suitable transit packing and a forklift truck of sufficient lifting capacity for the gross weights (see chapter entitled "Specifications") is required to unload the system and transport it to the operational location.

Carefully remove all the transit packaging from the system.



The customer is committed to control the whole equipment of the delivery for damages. If there are any damages, it must be reported immediately to Avdel Deutschland GmbH.

If there are damages, it must be documented (e.g. by take a picture) for being comprehensible.

Storage

For temporary storage of the Speed fasteners system it must be choose a dry place. Depending of the storage time, susceptible parts must be preserved and protected against soiling.

TROUBLE SHOOTING

SYMPTOM	POSSIBLE CAUSE	REMEDY
Tool will not place fastener	▶ Low air pressure	▶ Increase air pressure.
	▶ Lack of lubrication	▶ Lubricate tool at air inlet point.
	▶ High broach load	▶ Check fastener grip and application hole size
		▶ Check for correct size mandrel.
	▶ Worn or broken tail jaws	▶ New tail jaws
'Mandrel Slip' – jaws will not grip mandrel	▶ Tail jaws switched off	▶ Switch on tail jaws
	▶ Worn or dirty tail jaws	▶ Clean or renew as necessary
	▶ Insufficient air pressure / volume	▶ Increase air pressure / volume
	▶ Tail jaw switched off	▶ Replace switch
	▶ Air leaks to tail jaws	▶ Renew 'O' rings on piston 14
Jaws will not release mandrel	▶ Mandrel broken and not reaching tail jaws	▶ Replace mandrel
	▶ Dirty tail jaws or jaw Housing	▶ Replace non-return valve
	▶ Faulty tail jaw switch	▶ Clean and lubricate
Fasteners will not feed through nose jaws	▶ Replace 'O' rings	
	▶ Tail jaws not switched on	▶ Switch on tail jaws
	▶ Worn tail jaws	▶ Renew tail jaws
	▶ Cursor orientation incorrect	▶ Refit, ensuring correct orientation
	▶ Incorrect nose jaws	▶ Fit correct nose jaws
	▶ Mandrel follower spring not fitted	▶ Fit correct mandrel follower spring
	▶ Incorrect gap between fasteners head and nose jaws	▶ Set gap to 1,5mm – 3mm (1/16" – 1/8") See 'Loading The Tool', on page 23
	▶ Cursor sticking	▶ Clean and oil cursor
	▶ Weak outer spring around cursor	▶ Renew cursor
	▶ Incorrect mandrel follower spring fitted	▶ Fit correct mandrel follower spring
Excessive tail jaw wear	▶ High broach load	▶ Check application hole size an thickness and fastener grip capability
Feeding more than one fastener at a time	▶ Mandrel slip	▶ Check as for 'Mandrel Slip' , stage 2
	▶ Incorrect gap between fasteners head and nose jaws when loaded	▶ Set gap to 1,5mm –3mm (1/16" – 1/8") See 'Loading The Tool', on page 23

(7) Waste disposal

Speed fastening system
Part No.: 7539-300X series

REGULATIONS

For any kind of waste disposal, please observe the applicable national laws and regulations. Please consider the following.



Recycle every component possible



Do not put batteries in domestic waste

WASTE DISPOSAL

The various components of the machine must be disposed of separately. First remove fuel and oil from the machine.



Hydraulic oil presents a hazard to ground-water. Uncontrolled draining or incorrect disposal is liable to prosecution (environmental liability law).

Batteries and accumulator must be disposed of in accordance with special laws and regulations.



Batteries und accumulator must be treated separately from other waste and must not be put in domestic waste. Contravention is liable to prosecution.

The other components of the machine must be disposed of in accordance with applicable national laws and regulations.

Because of potential environmental damage, we recommend that the machine be disposed of by a professional company. The old machine cannot be returned to the manufacturer free of charge.

ADDRESSES

For any questions concerning waste disposal please contact

**Environment Directorate-General
European Commission**
Rue de la Loi 200
B-1049 Brussels

Avdel Deutschland GmbH
Klusriede 24
D-30851 Langenhagen

or consult your regional waste management body.

**(8) EC declaration
of conformity**

English

**Speed fastening system
Part No.: 7539-300X series**

AVDEL Deutschland GmbH
Klusriede 24
D – 30851 Langenhagen
Germany
Tel. +49 (0) 511 7288 0
Fax. +49 (0) 511 7288 133



We hereby declare that the following machine conforms to the relevant provisions of

EC Machinery Directive 98/37/EG

Machine description:	Speed fasteners system
Machine part no.:	7539-3000, 7539-3001, 7539-3004 or 7539-3005
Manufactured by:	Avdel Deutschland GmbH

This machine has been designed and manufactured in accordance with the following harmonised European Standards:

DIN EN 12100 Part 1 and 2 Safety of machinery - basic concepts, design principles

February 2007

Mark Collinge

Manufacturer: DRUMAG GmbH
Glärnerstrasse 2
D-79713 Bad Säckingen
Germany

Type: Instruction manual

Description: Pressure Intensifier

Number: HPU-100/18/02

Size: DIN A4

Parts: 9 Pages

Remarks: -/-

INSTRUCTION MANUAL

for

HPU PRESSURE INTENSIFIERS



INDEX

1. Technical Data	Page 2
2. Safety Requirements	Page 3
3. General Information	Page 4
4. Design and Operating Features	Pages 5-7
5. Installation Instructions	Page 7
6. Charging System with Fluid	Pages 8
7. Trouble Shooting	Pages 9
8. Maintenance	Page 9
9. Spare Parts	Page 9

1. TECHNICAL DATA

Input: Compressed Air: 0.5 bar to 10 bar (7 psi to 150 psi)
Operating Temperature Range: 15 °C - 80 °C (59 °F - 176 °F)

Intensifier Model No.	Pressure Multiplier	Displaceable High Pressure Volume		Available Oil Reserve ^{*)}	
		[cm ³]	[cu in]	[cm ³]	[cu in]
HPU 100/18/0,2 – 3099787	30:1	20	1.25	450	27.0
HPU 100/32/0,4	10:1	40	2.5	150	9.0
HPU 100/32/1	10:1	100	6.1	400	24.4
HPU 100/50/2,5	4:1	250	15.3	250	15.2
HPU 140/32/1,2	19:1	120	7.3	1000	61.0
HPU 140/50/2,5	8:1	250	15.3	750	45.5
HPU 140/63/4	5:1	400	24.5	650	40.0
HPU 200/32/1 – 3031292	38:1	100	6.1	2200	135.0
HPU 200/63/4	10:1	400	24.5	1700	104.0
HPU 200/100/8	4:1	800	49.0	1000	61.0
HPU 200/100/16	4:1	1600	98.0	2000	122.0

^{*)} The oil reserve volume should not exceed the middle position of the oil level indicator

Recommended Hydraulic Fluid

Only Quality Industrial Oils, such as DIN-E 51 524 or Mobil Vactra 1, should be used.

Intended Use

HPU Pressure Intensifiers are used to boost the operating pressure in applications where the available shop air pressure is insufficient to provide the necessary power and/or to meet the requirement for highly uniform movement of a work piece.

The instructions outlined in this Manual must be adhered to in order to assure reliable performance. The manufacturer disclaims any liability for damage caused if the units are used for purposes other than those intended.

2. SAFETY REQUIREMENTS

NOTE:

CAUTION !

Special care must be exercised in following the installation and maintenance procedures when highlighted by the symbol **<Caution !>**.

General Guidelines

- Pressure Intensifiers do not fall into the category of independent equipment machinery. This Manual is intended to assist the designer of machines and equipment to incorporate the HPU in a professional manner and to provide the maintenance requirements to ensure reliable operation of the system.
- Any person involved with the installation of the HPU must have read and understood the Operation Instructions and, in particular, these safety instructions.
- The Manual is written for engineering personnel with a background in fluid technology to guarantee the proper installation and maintenance of an HPU Pressure Intensifier. Any arbitrary alteration or modification to the HPU will become the user's responsibility and relieves the manufacturer of all liabilities.
- The Pressure Intensifier must be installed in an upright position.
- Piping and connector hardware in the hydraulic section of the system must be designed to meet the applicable safety requirements for the hydraulic operating pressure.
- Special care must be exercised when filling the Pressure Intensifier and the Work Cylinder with hydraulic fluid. For detailed instructions refer to Section 6 of this Manual.
- The controls of the system must be designed to assure free back and forth movement of the oil volume between Pressure Intensifier and Work Cylinder.

3. GENERAL INFORMATION

The HPU Pressure Intensifier is not an independently working piece of equipment as defined by the Machine Directive # 98/37/EEC. This Manual is intended to provide the necessary instructions to the Design Engineer and/or Equipment Mechanic for the proper installation and maintenance of a HPU Pressure Intensifier.

It is a prerequisite that engineers responsible for the design of machinery incorporating HPUs have fundamental knowledge of pneumatic and hydraulic Systems.

It is essential that these Operating Instructions are understood and complied with to insure trouble-free operation. If difficulties or problems should arise during or after installation, we recommend that our company or field representative be contacted.

We reserve the right to make technical modifications.

Applications

Pressure Intensifiers are used in Hydro-Pneumatic Drives with compressed air being the input power source and high pressure hydraulic oil the out-put. This open type Hydro-Pneumatic System viewed in the direction of power transmission usually consists of a Pressure Intensifier, Flow Control Valve and hydraulic Work Cylinder.

The low pressure compressed air input energy is converted into high pressure hydraulic power. Because of the high flow rate of compressed air the pneumatic energy is instantly available and only negligible losses occur while being converted into hydraulic energy. Uneven movement inherent to pneumatic systems is eliminated.

Copyright

The copyright of this Instruction Manual shall remain the property of SPECKEN-DRUMAG.

DRUMAG GmbH

P.O.Box 1142
D-79702 Bad Saeckingen
Germany
Phone 0049 (0)7761 5505-0
Fax 0049 (0)7761 5505-70

SPECKEN AG

Im Loerler 6
CH-8902 Urdorf
Switzerland
Phone 0041 (0)1 7340366
Fax 0041 (0)1 7342313

4. DESIGN AND OPERATION FEATURES

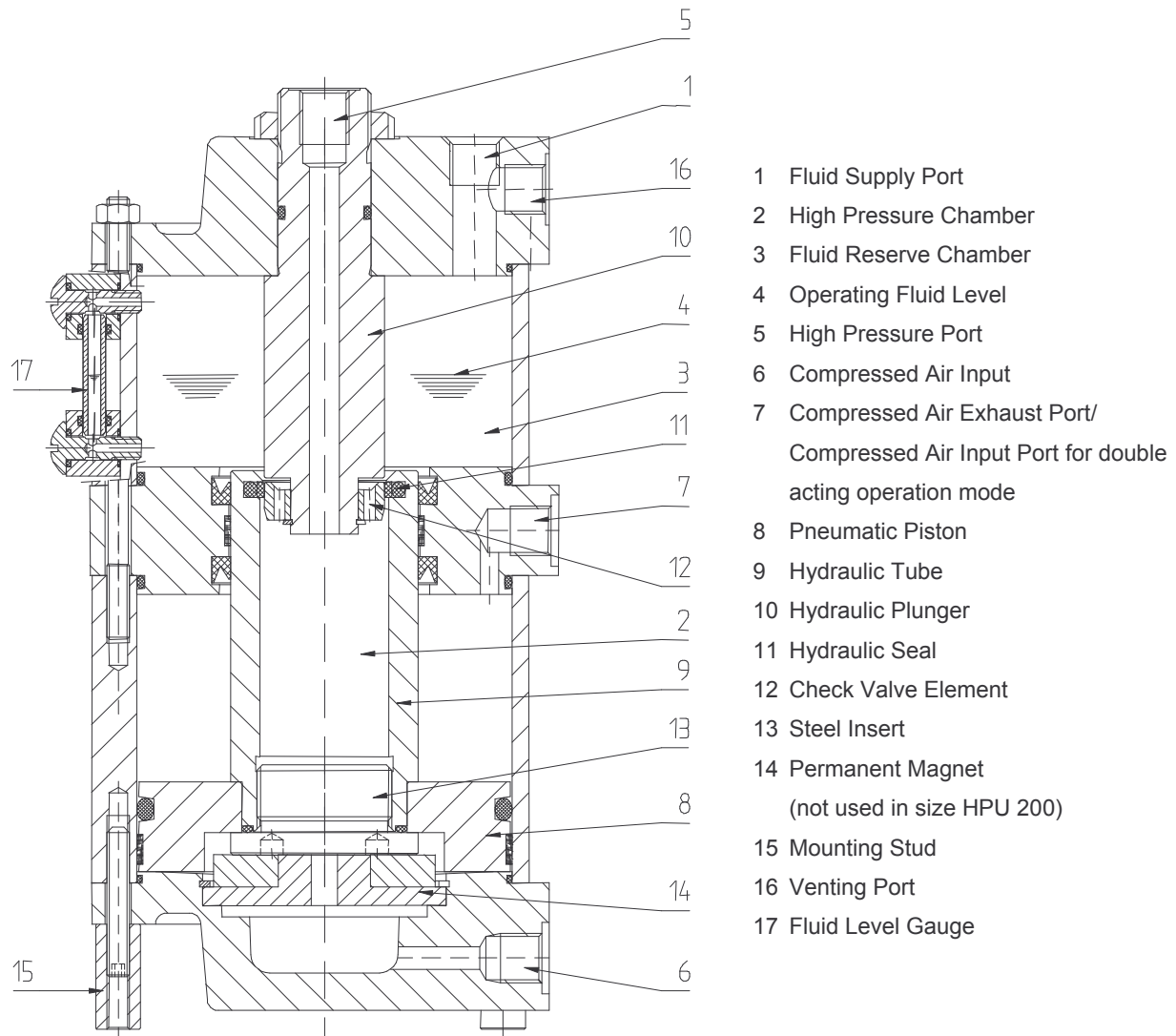


Fig. 1 Crossection of HPU Pressure Intensifier

Operation

It is assumed that the Pressure Intensifier is charged with fluid and properly vented.

Upon applying compressed air to Port #6, the Pneumatic Piston #8 and the Hydraulic Tube #9 will move towards the Hydraulic Plunger #10. After a short distance the Hydraulic Seal #11 and the Check Valve Element #12 will seal off the High Pressure Chamber #2 from the Fluid Reserve Chamber #3. The hydraulic pressure at port #5 increases with the area ratio between Piston #8 and Plunger #10. The increase in pressure during the stroke will depend on the drive load acting on the Work Cylinder.

The return of piston #8 to its starting position occurs when the air supply at port #6 is exhausted.

The HPU Pressure Intensifier can be installed to operate in either SINGLE-ACTING (Fig.2) or DOUBLE-ACTING (Fig.3) Mode

In **Single-Acting Operating Mode** (Fig. 2) the oil column is returned from the Work Cylinder to the Pressure Intensifier until the internal Check Valve #12 opens. Piston #8 with the integral steel insert is completely pulled into its starting position by the magnetic field of the Ring Assembly #14 (Fig. 1). Thus, any leakage from the drive is automatically compensated for and air is prevented from entering the system by the dynamically acting Seal # 11 and the internal Check Valve #12.

Work Cycle Time Reduction

In order to reduce the work cycle time in a system using a Pressure Intensifier, it is recommended that an Air Pressure Regulator #5 (relieving type) set at approx. 0.5 to 1 bar (7 to 14 psi) be applied at port #16 (Fig. 1).

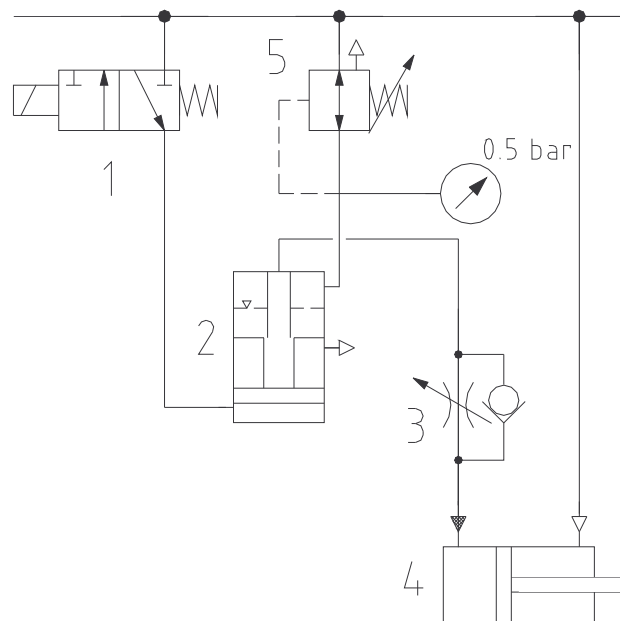


Fig. 2 Single-Acting Operation

- 1 – 3-way Control Valve
- 2 – HPU Pressure Intensifier
- 3 – Hyd. Flow Control Valve
- 4 – Work Cylinder
- 5 – Pressure Regulator (optional for all HPU sizes, for the HPU-200 series required)

IMPORTANT: The HPU-200 size Intensifier design does not feature a Magnetic Ring Assembly #14. In absence of the magnetic field, the hydraulic tube assembly #9 must be returned to its starting position by applying the recommended pressure at port #16.

Double Acting Operating Mode

In order to improve the efficiency and, in particular, to increase the speed at which the Pressure Intensifier can stroke, the system can be operated in Double Acting Mode (Fig. 3). For this mode the return flow should be metered through a Flow Control Valve #2 Fig. 3) at port #6 (Fig. 1) to adjust the speed of the return stroke of the high-pressure Tube #9 (Fig. 1) to the system speed. Without this measure chances are that the Pressure Intensifier will run ahead of the Work Cylinder causing a negative pressure in piping and Work Cylinder. This would result in air entering the system.

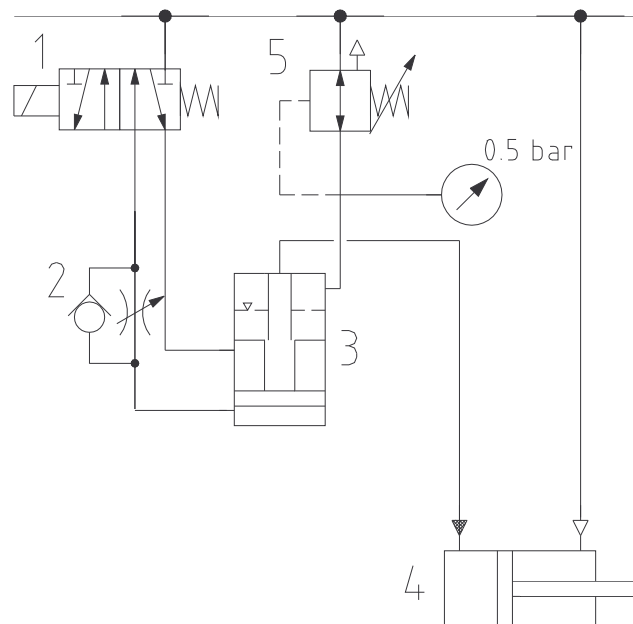


Fig. 3 Double-Acting Operation

- 1 – 4-way Control Valve
- 2 – Flow control/Check valve
- 3 – HPU Pressure Intensifier
- 4 – Work Cylinder
- 5 – Pressure Regulator (optional for all HPU sizes, for the HPU-200 series required)

5. INSTALLATION INSTRUCTIONS

- The HPU must be mounted as closely as possible to the Work Cylinder
- The HPU must be installed in a vertical position and secured by the 3 mounting screws #15.
- The use of controls shall be laid out in accordance with paragraph 4.

CAUTION!

All piping and connections must be rated for the maximum hydraulic pressure generated by the Intensifier.

CAUTION!

Apply only low pressure regulators (relieving type) at port #16 for oil compensation purposes.

6. CHARGING THE SYSTEM WITH HYDRAULIC FLUID

Prerequisites

Charging the System can only be done after:

- The installation of intensifier and Work Cylinder.
- Pneumatic and Hydraulic Controls are installed
- The Work Cylinder is pneumatically pressurised to fully return the Cylinder
- The Pneumatic Piston #8 (Fig. 1) is in the starting position.
- The Pressure at port #16 (Fig. 1) must be zero.

Charging Procedure

Before starting the filling process at port #1 (Fig. 1) the hydraulic connection at the Work Cylinder should be loosened to permit the air in the hydraulic piping to escape. As soon as fluid starts to leak out, the connection must be tightened again. By using a funnel to charge the system with fluid, the air in the Reserve Chamber #3 will be vented during the process.

- The Pressure Intensifier is charged through port #1 (Fig. 1) with an industrial oil, such as type DIN-E 51 524 or Mobil Vactra #1, until the fluid level on the indicator has reached the mark of approx. 2/3 full.
- Close port #1 by replacing the plug and gradually apply air pressure to the Reserve Chamber #3 using a Low Pressure Regulator #6. Do not exceed 1 bar or 15 psi. The High Pressure Chamber #2 ,hydraulic piping and the empty volume in the Work Cylinder will be filled with fluid over the Check Valve Element #12.
- Vent Fluid Reserve Chamber through relive port of the Low Pressure Regulator.
- Check the hydraulic fluid level at the visual indicator and replenish oil if necessary.

CAUTION!

The Pressure Intensifier is correctly filled when the fluid level indicator rests at the 1/2 full mark.

- The system must be cycled several times to make sure the correct fluid level is maintained.

Option

The HPU Pressure Indicator can be equipped with an Electric Fluid Level Sensor providing a warning signal if the oil level is exceeding the recommended safe level limits.

7. TROUBLE SHOOTING

Problem	Cause	Remedy
Excessive loss of fluid displayed by the Fluid Level Indicator	Hydraulic leak caused by defective seal #11 (Fig. 1) or Work cylinder seal	Replace seal (see paragraph "Spare Parts")
Motion of the Work Cylinder piston rod is not uniform	Hydraulic system contains air	Air in system must be vented (see paragraph 6)
Work Cylinder does not reach its end position	The oil volume between Pressure Intensifier and Work Cylinder is too low	Refer to paragraph 6, see note "Important" below
Pressure drop between Pressure Intensifier and Work Cylinder	The oil volume between Pressure Intensifier and Work Cylinder is too low	Refer to paragraph 6, see note "Important" below

Important: The Pressure Intensifier should be returned to its starting position at least once a day. Any minor fluid loss which might occur during Operation would be compensated for by the oil in the Reserve Chamber.

8. MAINTENANCE

Maintenance work is limited to checking the level of die hydraulic fluid and refilling it as outlined in paragraph 6 to compensate for possible losses due to leakage.

9. SPARE PARTS

Specify the complete HPU Model and part number when ordering spare parts. Seal kits are only available as complete sets.

CAUTION!

Check all sliding surfaces for possible wear marks when replacing die seals.
Replace any parts which show signs of premature wear.

(10) Machine plans

English

Speed fastening system
Part No.: 7539-300X series

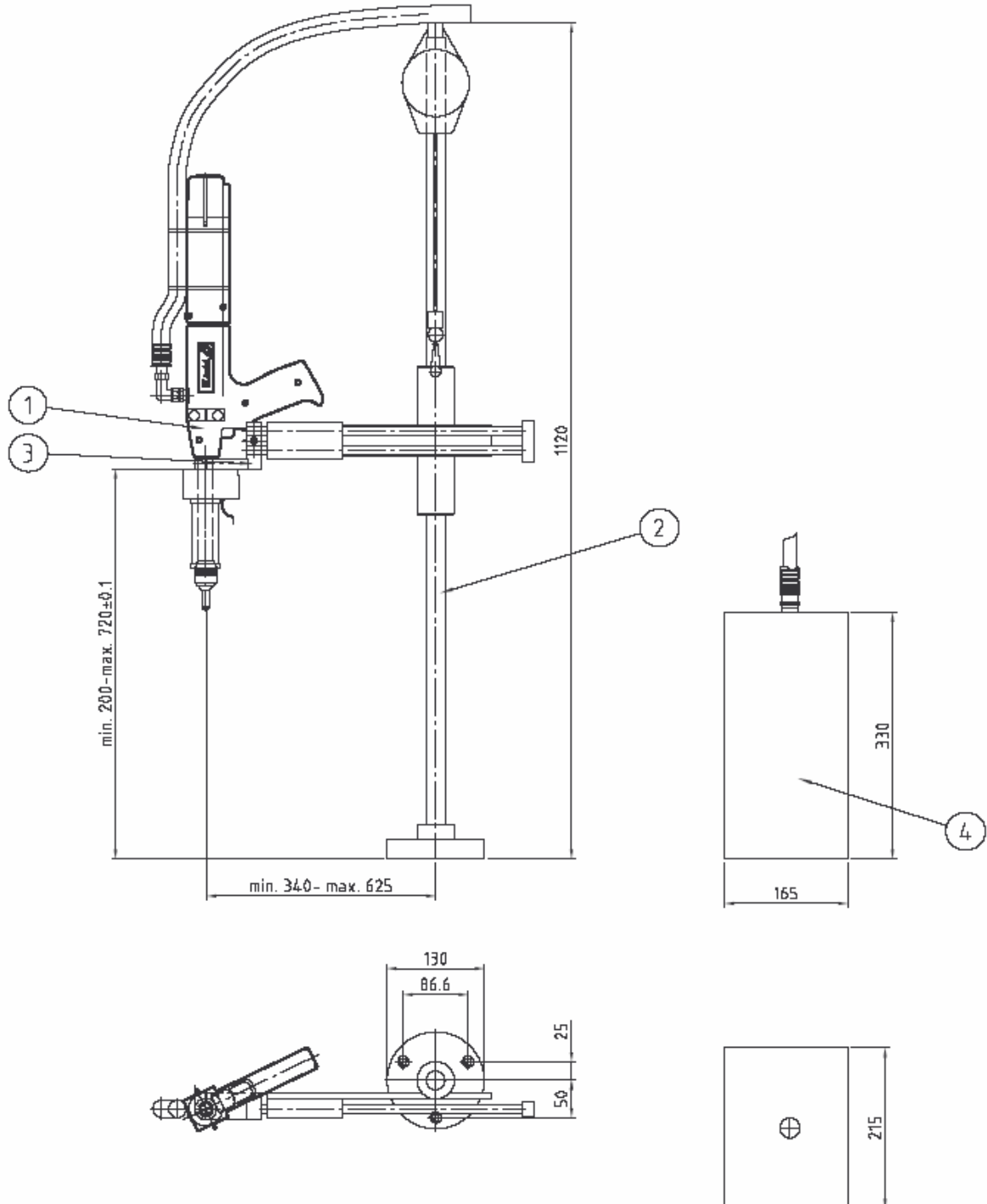
Type: Drawing
Description: Speed fasteners system
Number: 07539-30000
Size: DIN A4
Parts: 2 Page
Remarks: -/-

Type: Drawing
Description: Speed fasteners system
Underbench
Workstation
Number: 07539-30010
Size: DIN A4
Parts: 2 Page
Remarks: -/-

(10) Machine plans

Speed fastening system
Part No.: 7539-300X series

07539-30000



Parts list 07539-30000

Item	Description	Part no.
1	Tool 7530	78201-010019
2	Tool stand	ORD02-20330
3	Tool holder	78230-01299
4	Box for Intensifier	78201-010018



Request Info



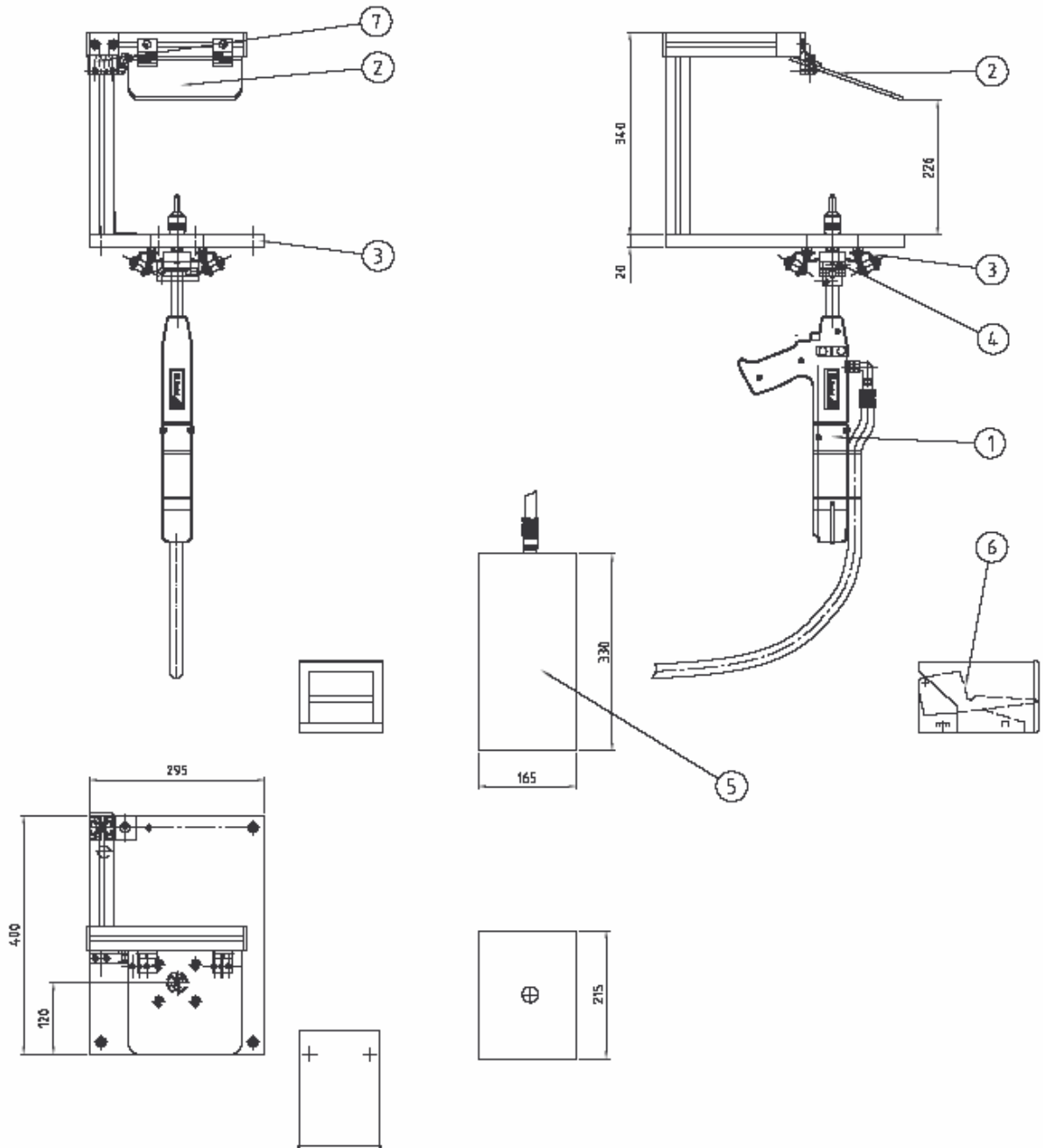
1-800-453-1692

www.aboveboardelectronics.com

(10) Machine plans

Speed fastening system
Part No.: 7539-300X series

07539-30010



Parts list 07539-30010

Item	Description	Part no.
1	Tool 7530	78201-010023
2	Safety device	78201-010022
3	Desktop with holder	78201-010020
4	Slide bearing	78230-00081
5	Box for Intensifier	78201-010018
6	Pedal valve	78201-010021
7	Nonreturn valve	78230-01298



1-800-453-1692

www.aboveboardelectronics.com