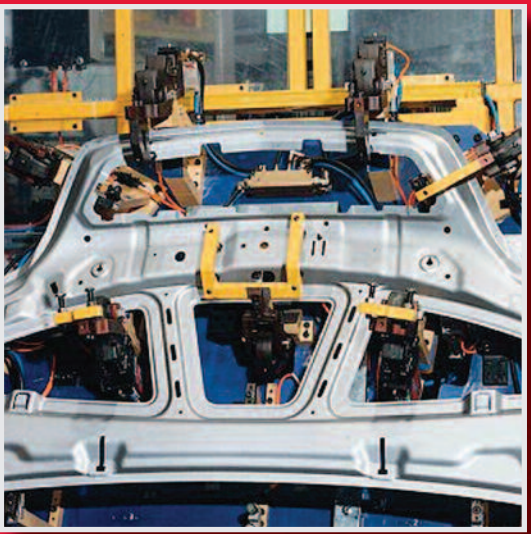
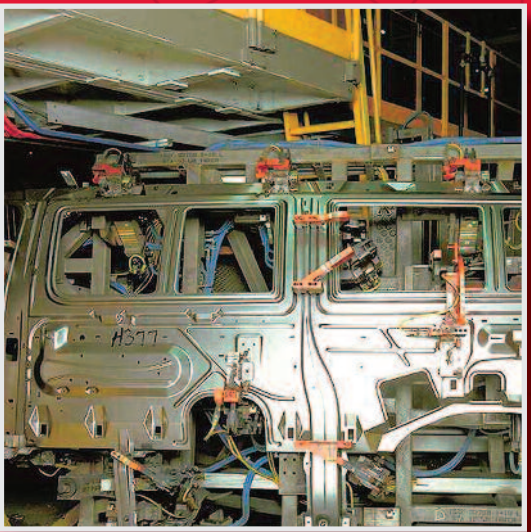
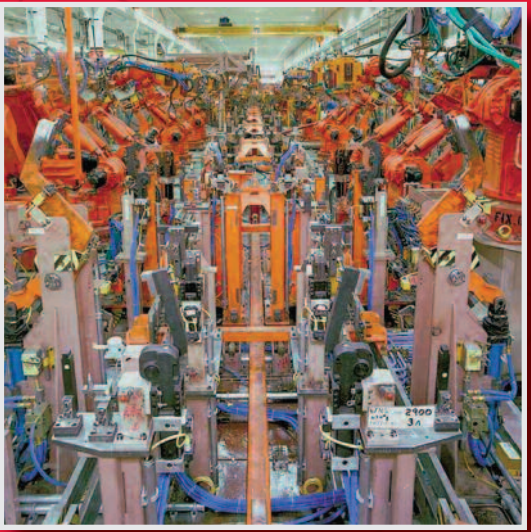
DE-STA-CO

A DOVER COMPANY







PNEUMATIC POWER CLAMPS

JUNE 2009

www.destaco.com

CAD FILES AVAILABLE ONLINE

Pneumatic Power Clamps

DE-STA-CO automation power clamps are designed for the requirements of the automotive and sheet metal processing industries.

They are the perfect choice when it comes to clamping, holding and positioning metal sheets and other components on and in a fixture. Enclosed versions are particularly well suited to welding systems. Sensors are available to monitor arm position. This optional feature is a distinct advantage in automatic systems.

All clamps share one common feature:
The clamps are designed to last for many cycles if the application complies with guidelines.

The table below is intended to help you take your first pick of a clamp that best suits your specific application.

Automation power clamps sorted by clamping force

Model	Clamping torque [Nm]	Holding torque [Nm]	Length of clamping arm [mm]	Clamping force 100 mm away from pivot-point clamping arm [N]
82L25-2	25	75	93	250
82L32-2	55	180	105	550
82L40-2	120	380	110	1200
82M-1…40	120	380	117	1200
82M-8x50	270	800	Varies	Varies
82M-7x63	420	1000	Varies	Varies
52H05-6	N/A	1000	Varies	Varies
82D40-2	55	55	N/A	N/A
82D63-2	120	120	N/A	N/A
82G80-4	1100	2200	Varies	Varies

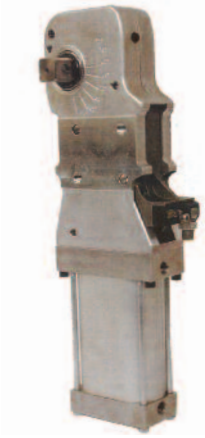
Attention: The clamping force is available in clamping position only.

■ **82L Series** (Pages 4 - 22)
82L Series, Version 2
Pnuematic Clamp
25mm, 32mm, and 40mm
Cylinder

82L Series, Version 2
Pneumatic Clamp
with hand-lever
25mm, 32mm, and 40mm
Cylinder

With or Without Hand-Lever

■ **82M Series, Version 1**
Pneumatic Clamp
40mm Oval Cylinder



■ **82M Series** (Pages 32-41)
82M-8x50, Version 8
Pneumatic Clamp
with 50mm Oval Cylinder

82M-7x63, Version 7
Pneumatic Clamp
with 63mm Oval Cylinder

■ **52M Series**
52H05-6, Version 6
Manual Hand Lever Clamp

■ **82D Series**
82D-8x50, Version 8
Double Action
Pneumatic Clamp
with 50mm Oval Cylinder

■ **82G Series**
82G8x-4, Version 4
Pneumatic Clamp
with 80mm Oval Cylinder

Series 82L2-2, 82L3-2, 82L4-2

NEW

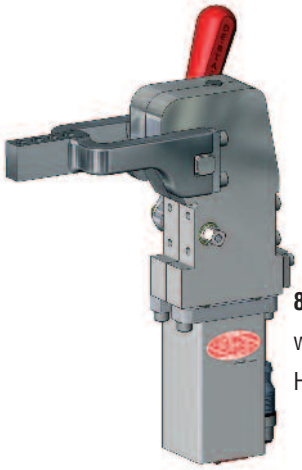
- **Automation Power Clamps, Lightweight Design, Enclosed Model, With And Without Hand Lever**

Model: **82L2-2, 82L3-2, 82L4-2**

Features:

- Enclosed body
- Dirt-resistant
- Compact design
- High holding torques
- Long life cycle
- Lightweight (Aluminium body)
- Toggle action mechanism
- Inductive sensing module (Optional)

82L3N-203B800
without Hand Lever
Horizontal Clamping Position



82L3G-203B8H0
with Hand Lever
Horizontal Clamping Position

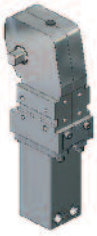
Order code for 82L..-2.....

Order no. Example: 82L3G – 2 | 03 | B8 | H | 0 | B

Series

2G = pneumatic cylinder Ø25 (G1/8)
3G = pneumatic cylinder Ø32 (G1/8)
3N = pneumatic cylinder Ø32 (1/8 NPT)
4G = pneumatic cylinder Ø40 (G1/4)
4N = pneumatic cylinder Ø40 (1/8 NPT)

82L2*-2****



82L3*-2****
82L4*-2****

-2 = Version

03 = ordering without clamping arm

03 = U-clamp arm, central 90°


11 = lateral clamp arm, left 90°
12 = lateral clamp arm, right 90°


23 = 2x lateral clamp arm 90°


38 = H-clamp arm 90°


43 = U-clamp arm, central 180°


51 = lateral clamp arm, left 180°
52 = lateral clamp arm, right 180°


63 = 2x lateral clamp arm 180°


78 = H-clamp arm 180°


105° standard opening angle for all models
lateral and **H**-clamping arms **not** availabele for **82L2***

00 =
without sensing system

C8 =
sensing system
8EA-097-1
(M8x1)


B7 =
sensing system
8EA-096-1
(M12x1)

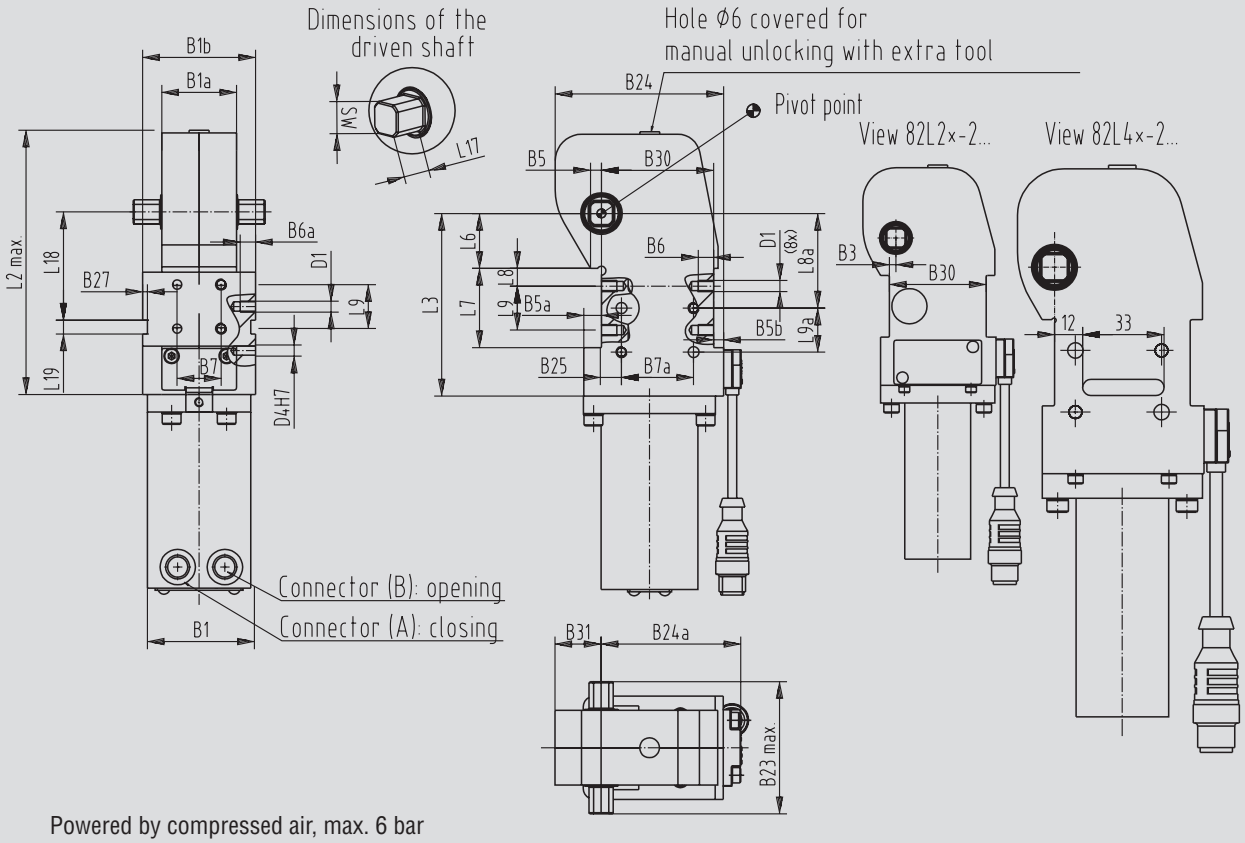

B8 =
sensing system
8EA-100-1
(M12x1)


0 = without hand lever

H =
with hand lever


0 = standard-opening angele 105°
3 = 90° opening angle
4 = 75° opening angle
5 = 60° opening angle
6 = 45° opening angle
7 = 30° opening angle
8 = 15° opening angle

= base model
Power clamp without claming arm to be marked with an additional **"B"**
Only with clamping arm **"03"**



Powered by compressed air, max. 6 bar
Operation with oil-free air is permissible.

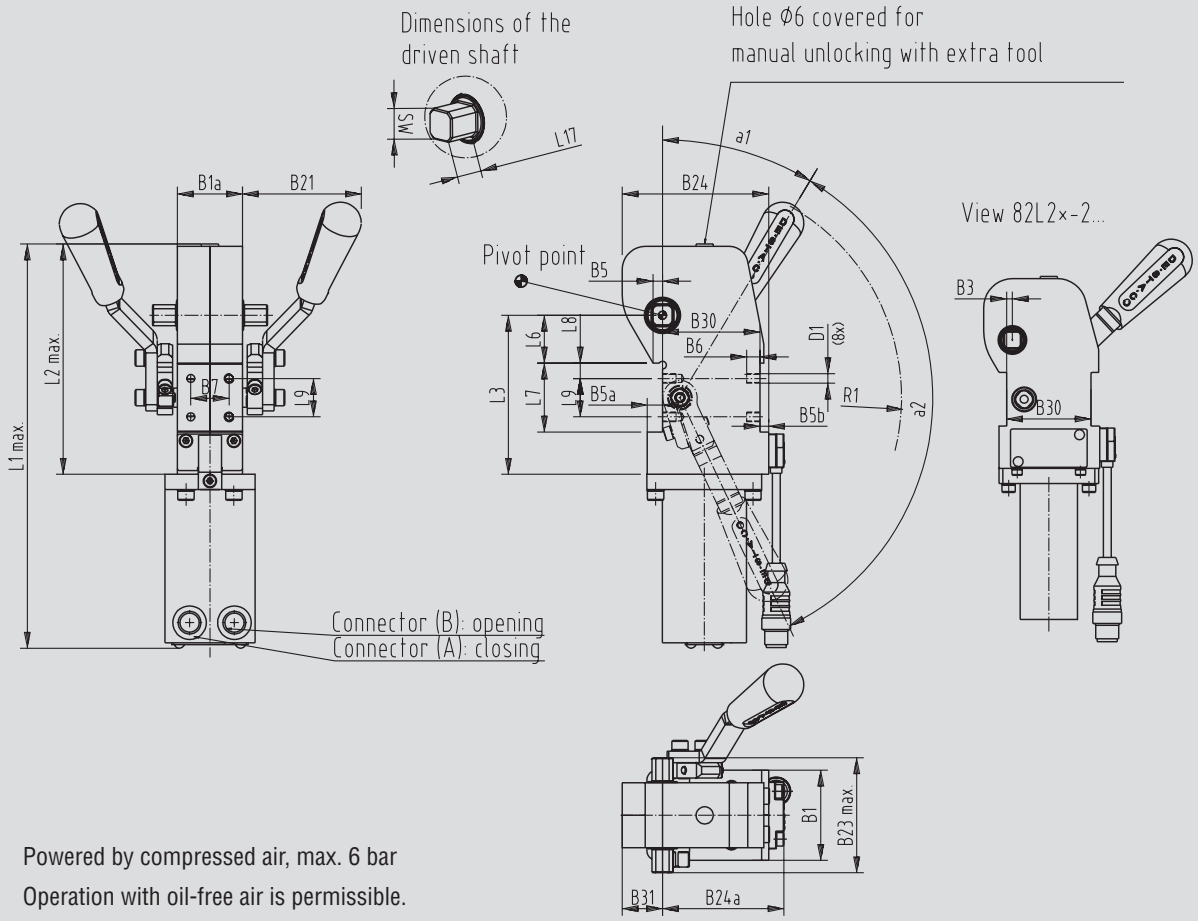
Clamping arms see seperate drawings.

Technical Data, Models without Hand Lever

Model no.	Max. Holding Torque (Nm)	Claming Torque at 5 bar (Nm)	Piston Ø (mm)	Weight (kg)	Air Consumption per double stroke at 5 bar (litre)	B1 ± 0.1	B1a	B1B	B3 ± 0.1	B5	B5a	B5b	B6	B6a	B7 ± 0.1	B7a ± 0.1
82L2-2...	75	25	25	1.0	0.4	32	34	–	3	4	4	4.5	7	–	25	–
82L3-2...	180	55	32	1.3	0.8	42	34	46	–	5	8	4.5	7	10	20	30
82L4-2...	380	120	40	1.9	1.2	45	40	–	–	6.5	6	4.5	10	10	25	35

Model no.	B23 max.	B24	B24a	B25 +0.1	B27	B30	B31	D1	D4 H7	L1 max.	L2 max.	L3	L6 ±0.05	L7 ± 0.1	L8 ± 0.1	L8a ± 0.1	L9 ± 0.1	L9a ± 0.1	L17	L18	L19 N9	SW h9
82L2-2...	53	60.5	53.5	–	–	44	15	M5	–	179.5	100.5	67	17	28	5	–	18	–	8,5	–	–	9
82L3-2...	60	76.5	63.5	8	3,5	51	21	M5	6	211	120.5	83	25	36	8	42	20	20	12,5	48	8	11
82L4-2...	74	88	69.5	9	3,5	57	26.5	M6	6	242	138.5	92	30	40	10	50	20	25	16	58,5	8	16

Series 82L2-2, 82L3-2, 82L4-2



Powered by compressed air, max. 6 bar
Operation with oil-free air is permissible.

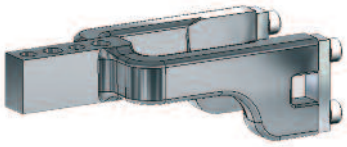
Clamping arms see seperate drawings.

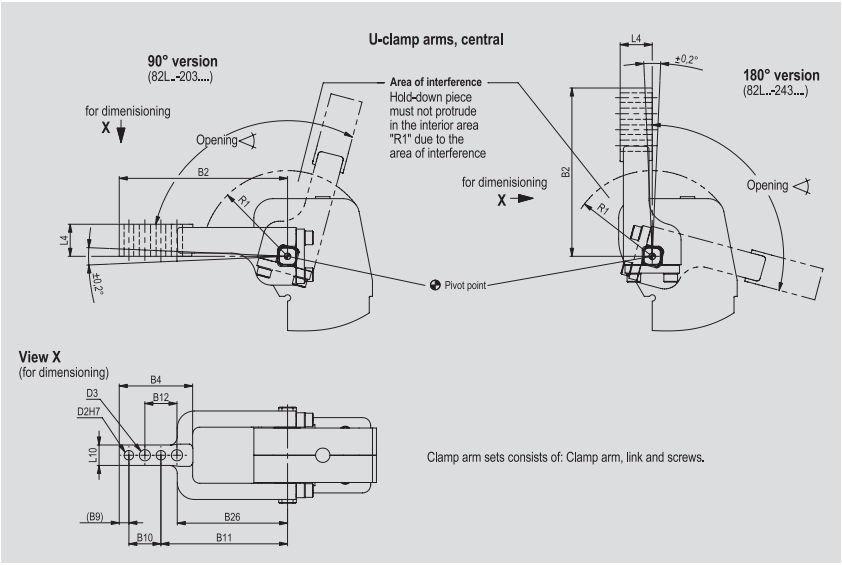
Technical Data, Models with Hand Lever

Model no.	Max. holding torque. [Nm]	Clamping torque at 5 bar [Nm]	Piston Ø [mm]	Weight [kg]	Opening-angle	Air consumption per double stroke at 5 bar [litre]	Connection G	B1 ± 0,1	B1a	B3 ± 0,1	B5	B5a
82L2-2.H.	75	25	25	1,1	105°	0,4	G1/8	32	34	3	4	4
82L3-2.H.	180	55	32	1,5	105°	0,8	G1/8	42	34	-	5	8
82L4-2.H.	380	120	40	2,1	105°	1,2	G1/4	45	40	-	6,5	6

Model no.	B5b	B6	B7 ± 0,1	B21 ~	B23 max.	B24	B24a	B30	B31	D1	L1 max.	L2 max.	L3	L6 ±0,05	L7 ± 0,1	L8 ± 0,1	L9 ± 0,1	L17	SW h9	a1 ~	a2 ~	R1 ~
82L2-2.H.	4,5	7	25	62	53	60,5	53,5	44	15	M5	179,5	100,5	67	17	28	5	18	8,5	9	36°	131°	117
82L3-2.H.	4,5	7	20	62	60	76,5	63,5	51	21	M5	211	120,5	83	25	36	8	20	12,5	11	31°	124°	117
82L4-2.H.	4,5	10	25	62	74	88	69,5	57	26,5	M6	242	138,5	92	30	40	1 0	20	16	16	31°	131°	117

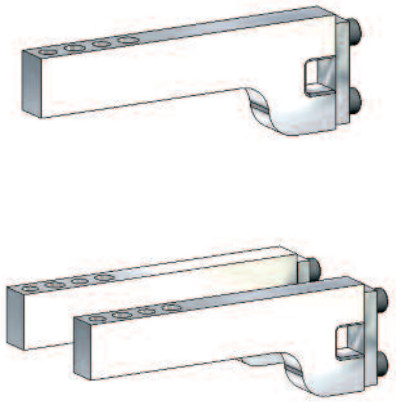
U-Bar

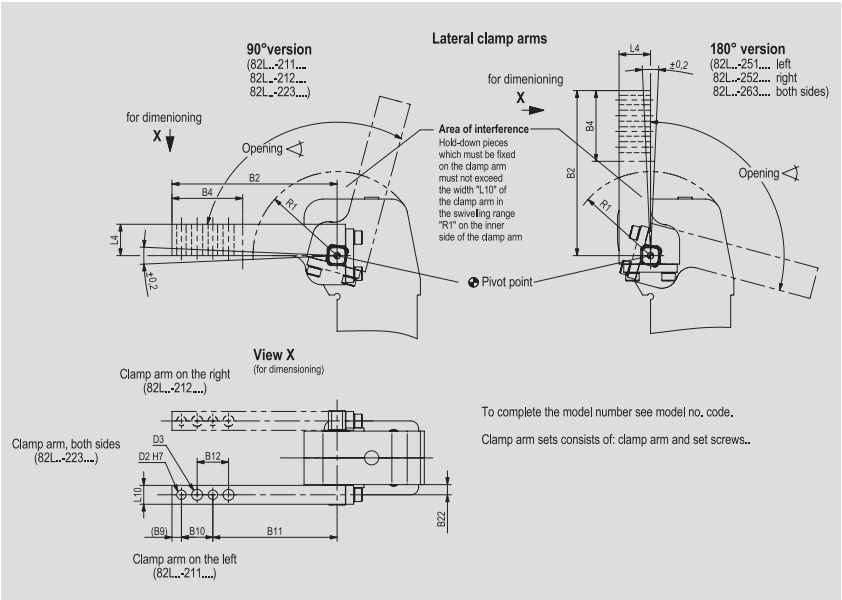




Model no..	Order no. for U-bar	Opening angle for 90°-Version max.	Opening angle for 180°-Version. max.	Weight (kg)	B2	B4	B9	B10 (mm) ±0.02	B11 (mm) ±0.1	B12 (mm) ±0.2	B26	D2 H7	D3	L4 (mm) ±0.1	L10	R1
82L2-2.....	**8JG-075-3-01**	105°	105°	0.3	93	45	8	20	65	20	58	4	6.5	20	12	45
82L3-2.....	**8JG-065-2-01**	105°	105°	0.37	105	45	6	20	79	20	69	6	7	20	12	55
82L4-2.....	**8JG-067-2-01**	105°	105°	0.5	110	45	6	20	84	20	78	6	7	22	15	58

Lateral Arms

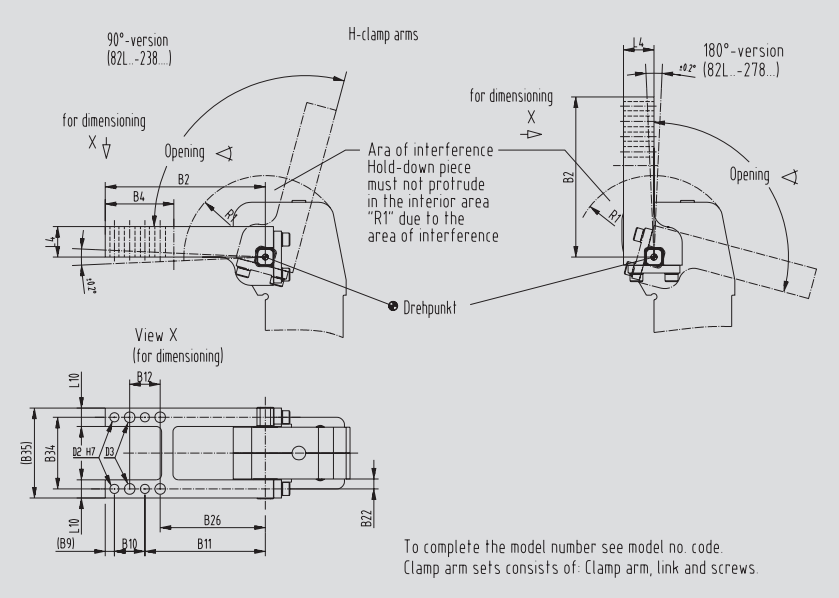


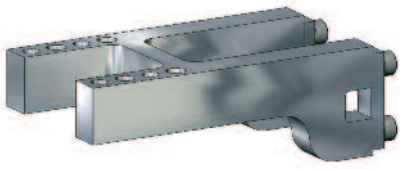


Model no..	Order no. for lateral arms	Opening angle for 90°-Version max.	Opening angle for 180°-Version max.	Weight (kg)	B2	B4	B9	B10 (mm) ±0.02	B11 (mm) ±0.1	B12 (mm) ±0.2	B22	D2 H7	D3	L4 (mm) ±0.1	L10	R1
82L3-2...	**8JG-066-1-01**	105°	105°	0.25	105	45	6	20	79	20	6.5	6	7	20	12	55
82L4-2...	**8JG-068-1-01**	105°	105°	0.3	92	45	6	20	66	20	8.5	6	7	22	15	58

Series 82L2-2, 82L3-2, 82L4-2

H-clamp arms for 82L_G-2





Model no.	Order no. for set H-Clamp arm	Opening angle 90°-Version max.	Opening angle 180°-Version. max.	Weight [kg]	B2	B4	B9	B10 ±0,02	B11 ±0,1	B12 ±0,2	B26	B34 ±0,1	B35	D2 H7	D3	L4 ±0,1	L10	R1
82L3*-2*8...	**8JG-363-1-01**	105°	105°	0,52	105	45	6	20	79	20	69	47,1	59,1	6	7	20	12	55
82L4*-2*8...	**8JG-364-1-01**	105°	105°	0,77	110	45	6	20	84	20	78	57,1	72,1	6	7	22	15	58

Concept Guidelines

82L2-2

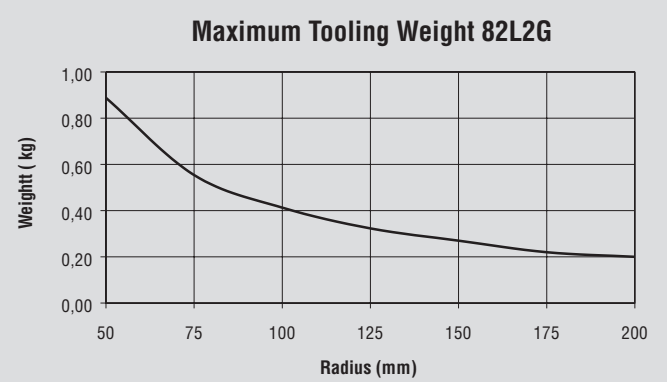
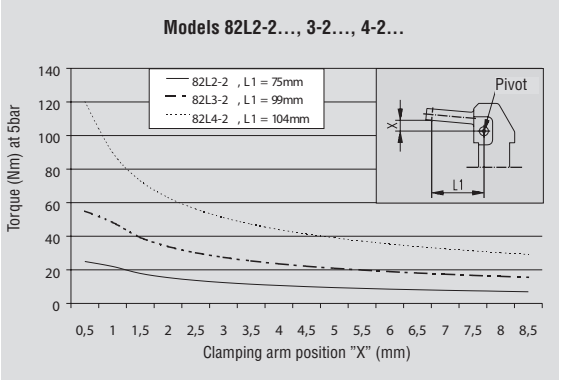
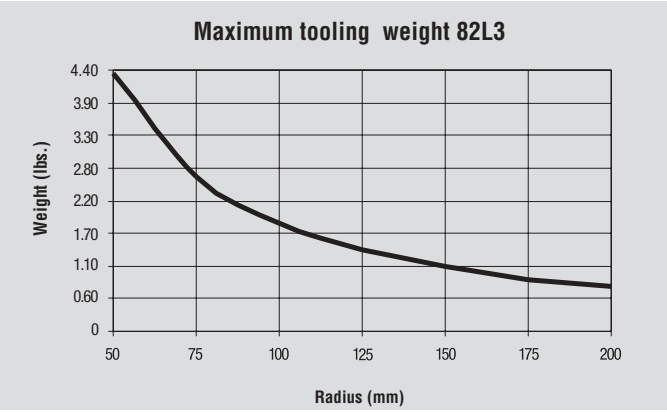


Diagram of Clamping Force (at 5 bar)

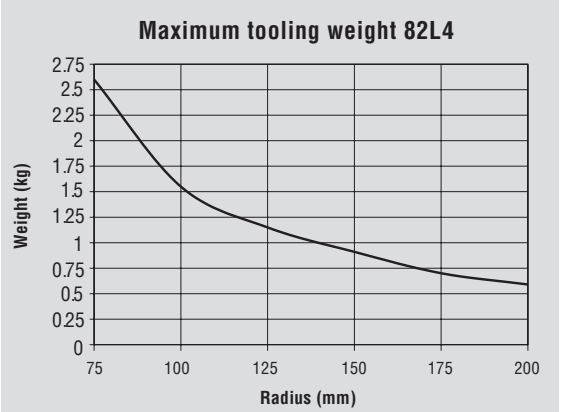
82L2-2 / 82L3-2 / 82L4-2



82L3-2

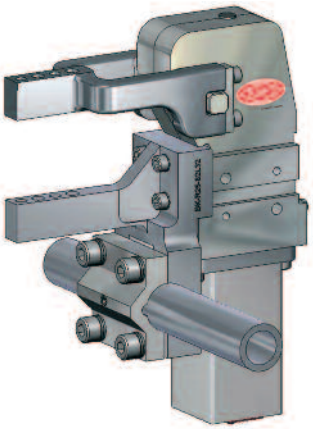


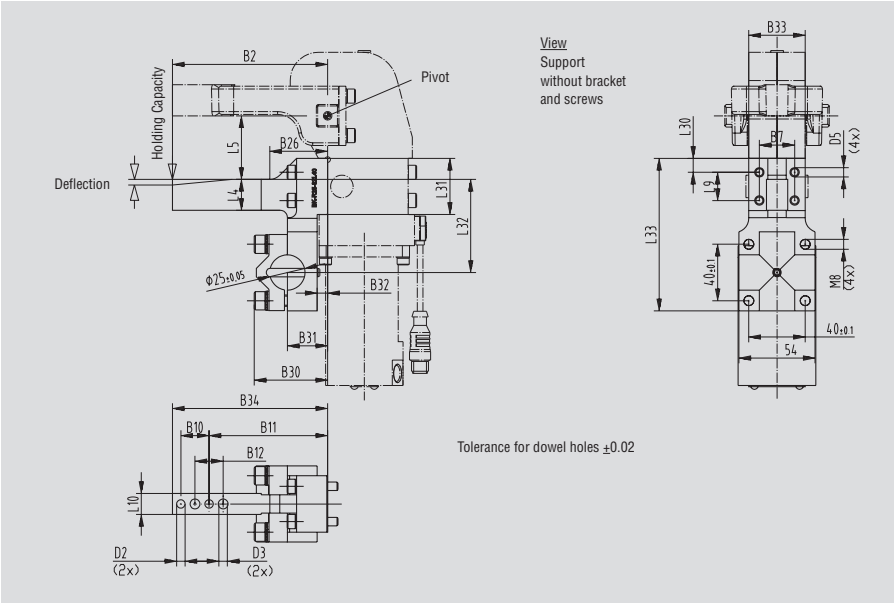
82L4-2



All details apply under an air pressure of 6 bar and opening and closure time of 1 second each.

Accessory (Counter-support)



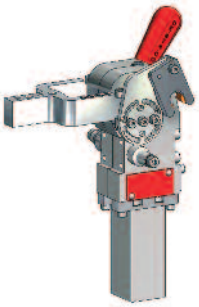


Technical Data

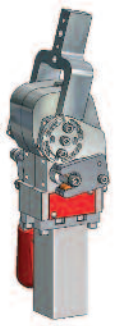
Model no..	fit for model	Holding capacity max. [N]	Deflection [mm]	Weight ~ [kg]	B2	B7 ±0,1	B10 ±0,02	B11	B12	B26 ~	B30	B31	B32
BK-R25-82L25-1	82L2_	914	0,2	0,4	93	25	20	62	20	42	55	31,5	11
BK-R25-82L32-1	82L3_	660	0,16	0,5	105	20	20	79	20	44	52	28,5	9
BK-R25-82L40-1	82L3_	2000	0,37	0,56	110	25	20	84	20	41	52	28,5	7,5

Model no.	B33	B34	D2 Ø H7	D3 Ø	D5 Ø	L4 +0,1	L5	L9 ±0,1	L10	L30	L31 -0,1	L32	L33	
BK-R25-82L25-1	35	90	4	6,5	5,5	20	45	18	12	4,95	28	50,9	106	
BK-R25-82L32-1	46	105	6	7	5,5	20	45	20	12	7,85	35,7	59	106	
BK-R25-82L40-1	40	110	6	7	6,6	22	45	20	15	9,85	39,7	66	108	

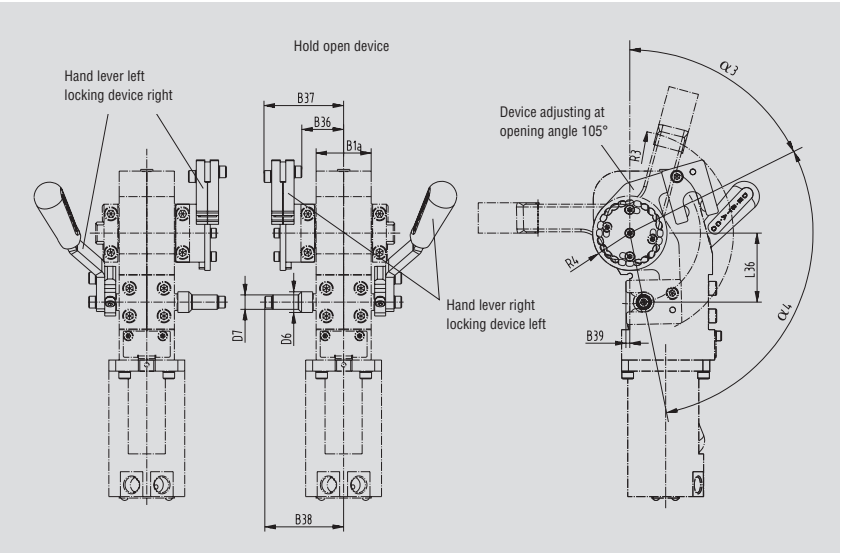
Accessory (Hold Open Device)



Clamping position



Open position
locked



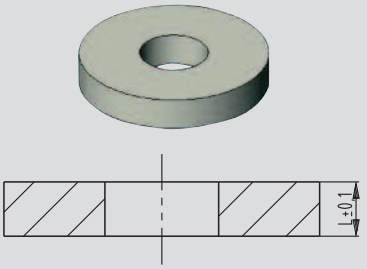
Model no.	fit for model	B1a	B36	B37	B38 Ø	B39 Ø	D6	D7	L36	R3	R4	a 3	a 4
82ZB-036-1	82L2_	34	25	45	47	3	15	10	31	53	18,5	63°	105°
82ZB-037-1	82L3_	34	28	56	56	4	15	10,5	43	69	25	63°	105°
82ZB-038-1	82L4_	40	30	58	58	3	15	10,5	50	76	27	63°	105°

Series 82L2-2, 82L3-2, 82L4-2

Accessories, With or Without Hand Lever

Specification	82L2-2	82L3-2	82L4-2
Clamping arm			
U-central	**8JG-075-3-01**	**8JG-065-2-01**	**8JG-067-2-01**
lateral	**–**	**8JG-066-1-01**	**8JG-068-1-01**
H-shape	**–**	**8JG-363-1-01**	**8JG-364-1-01**

Opening angle limitation spacer



Opening-angle	82L2-2		82L3-2		82L4-2	
	Model no.	L ± 0.1mm	Model no	L ± 0.1mm	Model no.	L ± 0.1mm
15°	8CE-282-1	28.6	8CE-296-1	33.3	8CE310-1	38.4
30°	8CE-284-1	23.1	8CE-298-1	26.9	8CE312-1	31
45°	8CE-286-1	18.5	8CE-300-1	21.5	8CE314-1	24.7
60°	8CE-288-1	14	8CE-302-1	16.3	8CE316-1	18.6
75°	8CE-290-1	9.4	8CE-304-1	11	8CE318-1	12.5
90°	8CE-292-1	4.7	8CE-306-1	5.5	8CE320-1	6.2

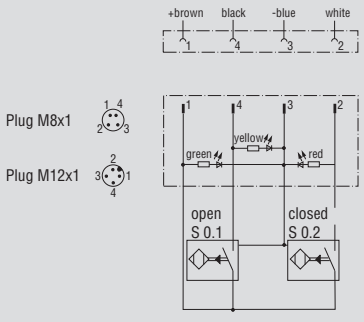
Spare parts for 82L..

Specification	82L2-2	82L3-2	82L4-2
Cylinder			
G Ports	**8PW-095-2**	**8PW-096-2**	**8PW-097-2**
NPT Ports		**8PW-102-2**	**8PW-103-2**
Seal-Kit	**8PW-095-1-01**	**8PW-096-1-01**	**8PW-097-1-01**
Sensor Kit			
B8 Connector Socket M12x1 cable		**8EA-100-1**	
B7 Connector Socket M12x1 fixed		**8EA-096-1**	
C8 Connector Socket M8x1 fixed		**8EA-097-1**	
Hand Lever	**8KB-031-1**	**8KB-031-1**	**8KB-032-1**

Wiring Diagram

Sensing system immune to interference from
d.c. arc welding and a.c. arc welding

Inductive version: **B8, B7, C8** **Pin assignment**

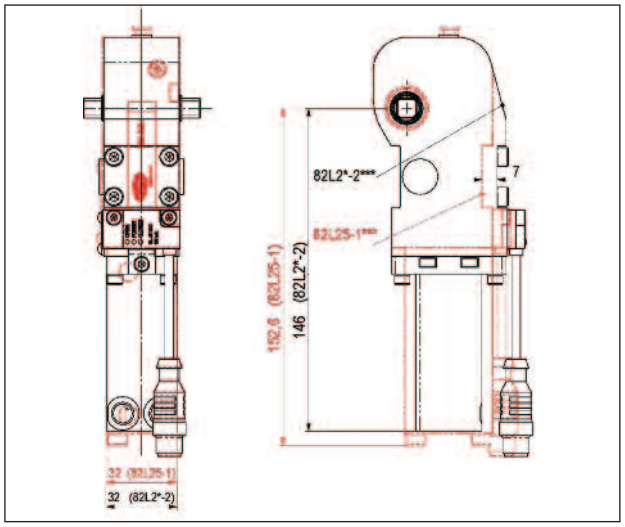


Comparision 82L _ _-1 to 82L_ _-2

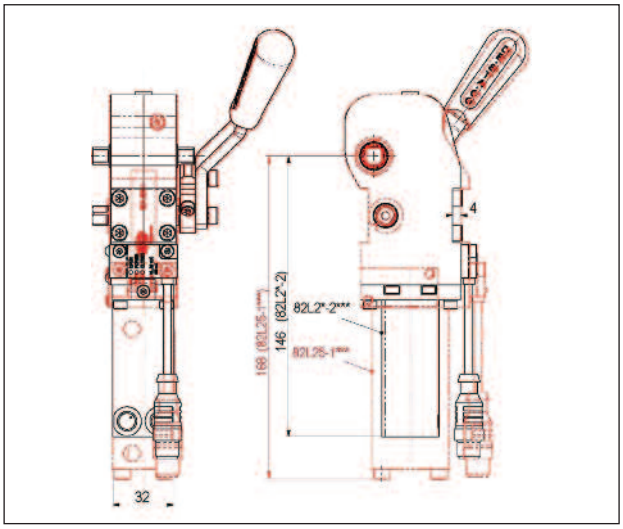
82L _ _-1 (Version 1) Shown in Red Outlines

82L _ _-2 (Version 2) Shown in Black Outlines

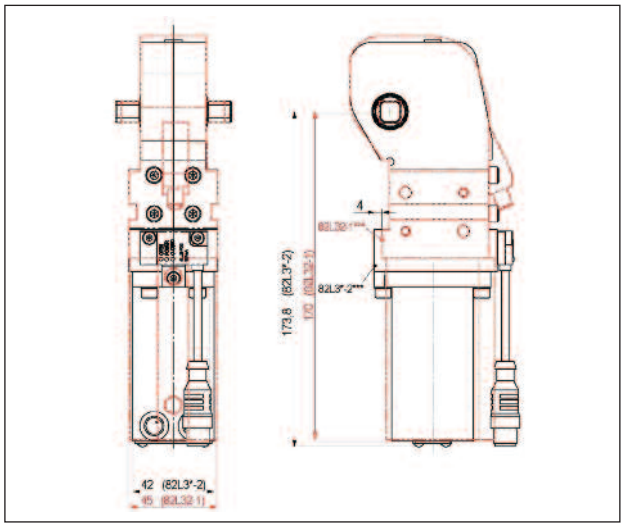
82L2 (without Hand Lever)



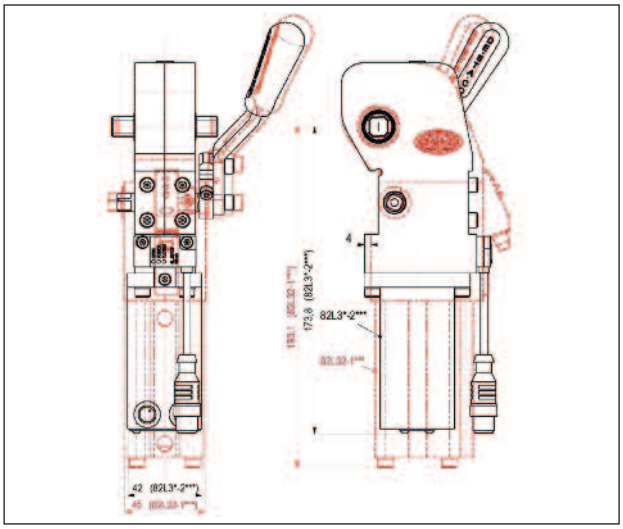
82L2G (with Hand Lever)



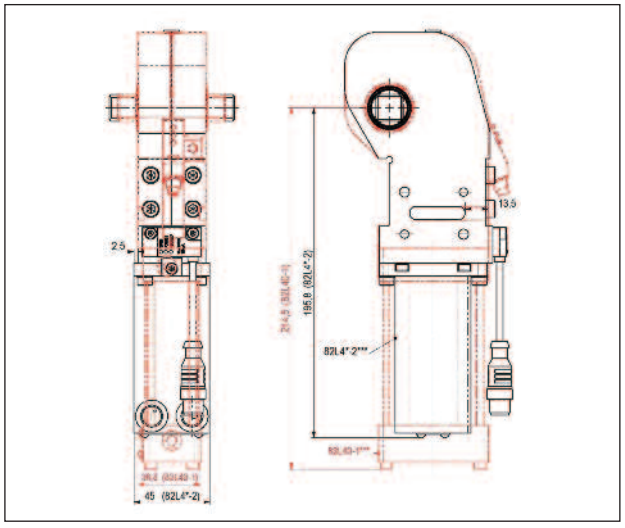
82L3 (without Hand Lever)



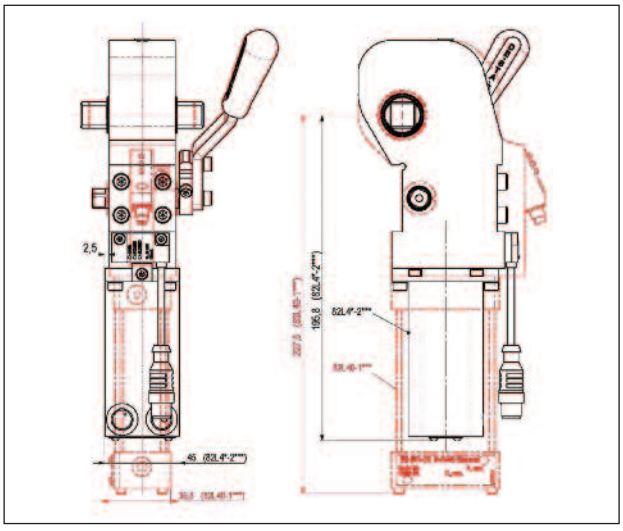
82L3 (with Hand Lever)



82L4 (without Hand Lever)



82L4 (with Hand Lever)



Series 82M-1

■ **Modular Automation Power Clamp, Enclosed Design, Lightweight**

Models: **82M-123040..**

Features:

- Modular design
- Enclosed body
- Dirt-resistant
- Compact design
- High holding torques
- Long life cycle
- Lightweight (Aluminium body)
- Wide range of clamping arm variants
- Adjustable opening angle without need for accessory parts
- Toggle action mechanism
- Inductive sensing module with led display

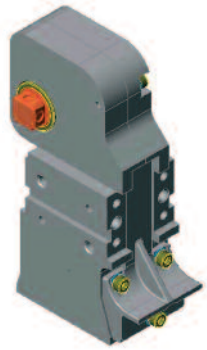
82M-123040C8
Modular Automation
Power Clamp

Model Numbering Code for 82M-1..040..

Example Model No.: 82M – 1 | 23 | 0 | 40 | C8

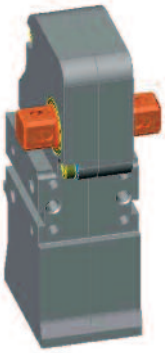
82M - 1 = Basic Model

without Hand Lever
without Cylinder
without Sensing System



Basic model

23 = Drive Shaft for Lateral Clamp Arms and U-Clamp Arm



Drive shaft

00 = without Hand Lever

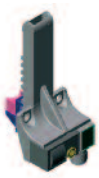
40 = Pneum. Cylinder Ø40

Cylinder

00 = without Sensing System

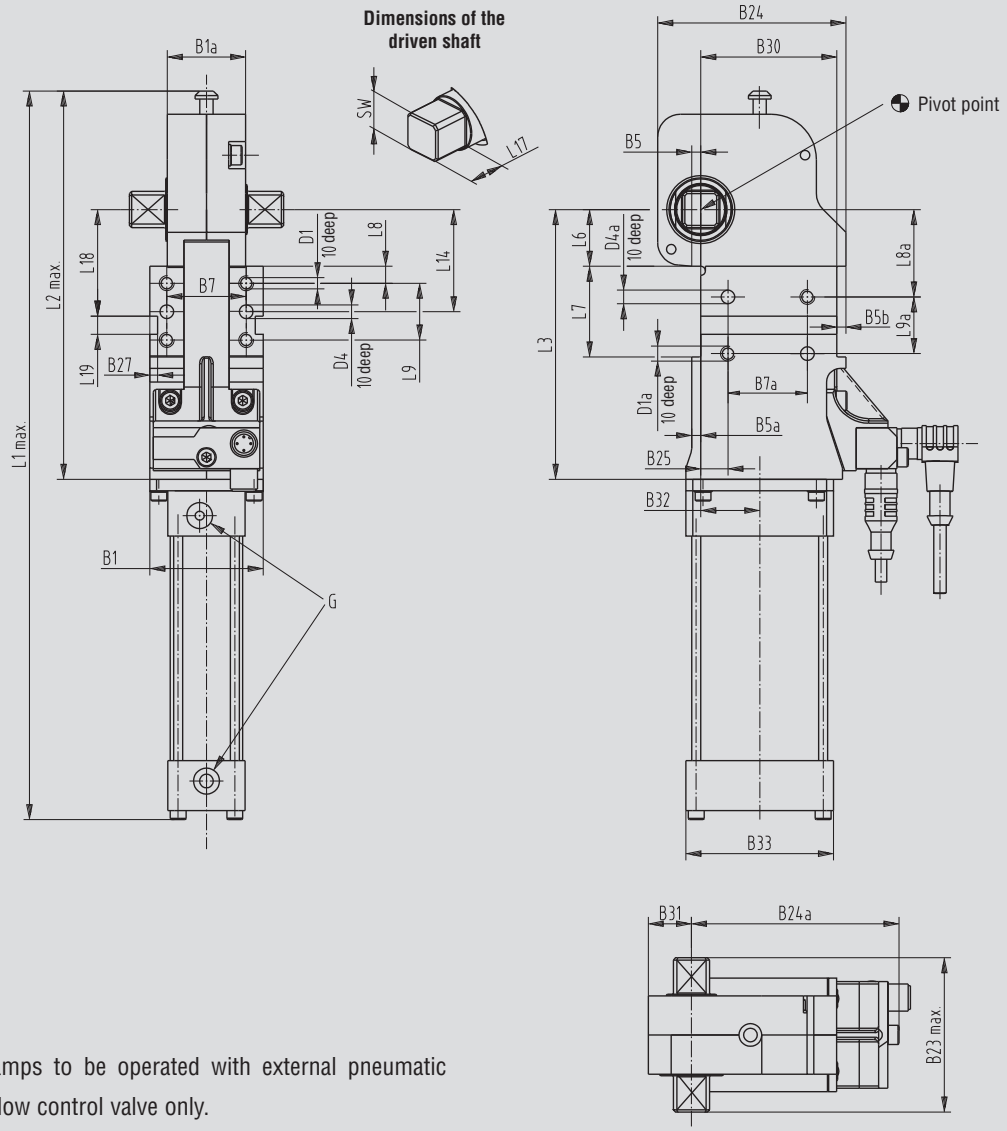
C8 = Inductive Sensing System 82M-000040C8

D8 = Inductive Sensing System 82M-000040D8



Sensing system

82M-1



Power clamps to be operated with external pneumatic one-way flow control valve only.

Technical data

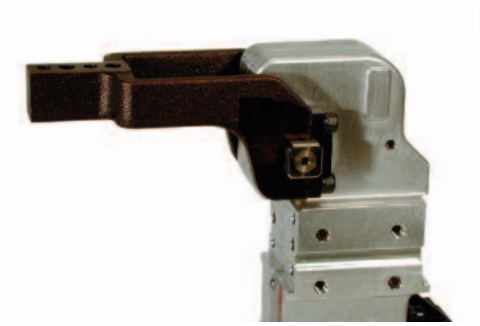
Model no.	Piston Ø	Connection G	B1 ±0,1	B1a	B5	B5a	B5b	B7[1] ±0,1	B7a[1] ±0,1	B23 max.	B24
82M-123040_ _	40	G 1/4	50	34,5	4	4	4	35	35	68	83

Model no.	B24a	B25 ±0,1	B27	B30 ±0,1	B31	B32	B33	D1	D1a	D4 H7 Ø	D4a H7 Ø	L1 max.	L2 max.
82M-123040_ _	91,5	12	3,5	60	19	25,8	65	M6	M6	6	6	323	173

Model no.	L3	L6 ±0,05	L7 +0,1	L8 ±0,1	L8a ±0,1	L9 ±0,1	L9a[1] ±0,1	L14 ±0,1	L17	L18	L19 N9	SW h9	
82M-123040_ _	119	25	40	7,5	38,5	25	25	45	16	47	8	16	

[1] Tolerance for distance to dowel hole ±0,02

Series 82M-1



Central Clamping Arm, Horizontal Clamping Position

Clamping Arms for 82M-1

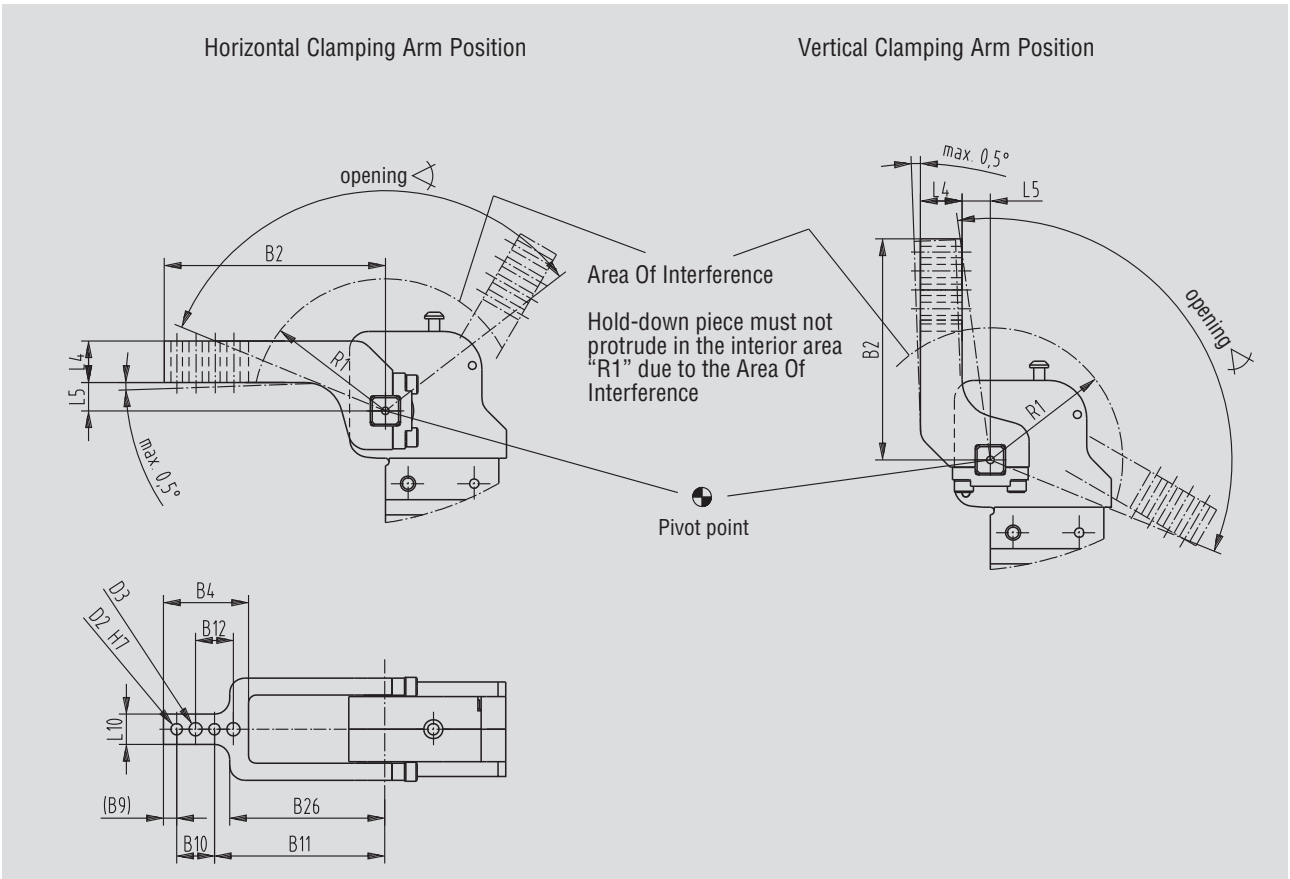
Clamping Arm Design
U-Type Central Clamping Arm

Clamping Position
Horizontal or Vertical

Technical Data U-Type Central Clamping Arm

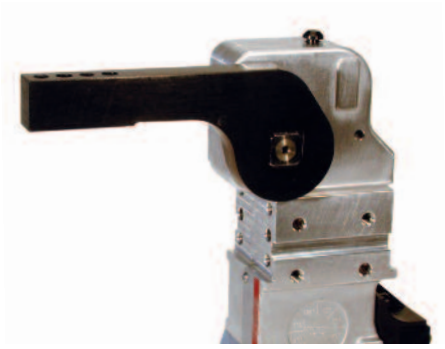
Model no.	Order no. for set of U-type central clamping arms	Opening angle for clamping position Horizontal	Vertical	Weight [kg]	B2	B4	B9	B10 ±0,02	B11 +0,1	B12 ±0,2	B26	D2 H7 Ø	D3 Ø	L4 ±0,1	L5 (-0,5° max.)	L10	R1
82M-1…040..	8UM401-15-117	120°	120°	0.47	117	45	7	20	90	20	82	6	7	22	15	16	70
	8UM401-00-117	120°	105°	0.43	117	45	7	20	90	20	82	6	7	22	0	16	70
	8UM401-45-107	120°	120°	0.50	107	45	7	20	80	20	72	6	7	22	45	16	70

U-Type Central Clamping Arms for 82M-1



Clamping arm variants for 82M-1

Clamping Arm Design	Clamping Position
Lateral / Left	Horizontal or Vertical
Lateral / Right	Horizontal or Vertical
Lateral / Both Sides	Horizontal or Vertical



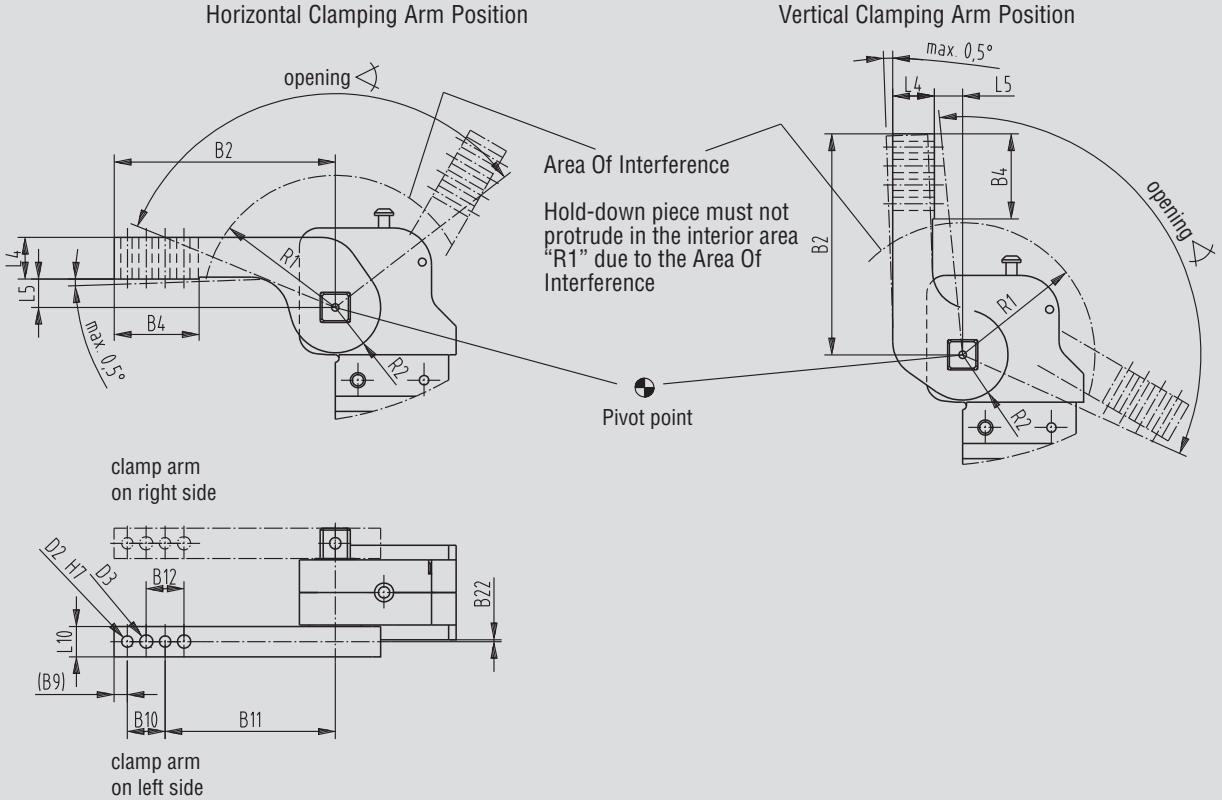
Lateral Clamping Arm, Horizontal Clamping Position

Technical Data U-type Clamping Arms (Lateral Clamping Arms)

Model no.	Order no. for set of lateral clamping arms	Opening angle for clamping position		Weight	B2	B4	B9	B10	B11	B12
		Horizontal	Vertical	[kg]				±0,02	+0,1	±0,02
82M-1..040..	8S401-15-117	120°	120°	0.5	117	45	7	20	90	20

Model no.	Order no. for set of lateral clamping arms	B22	D2 H7 Ø	D3 Ø	L4 ±0,1	L5 (-0,5°max)	L10	R1	R2
82M-1..040..	8S401-15-117	1	6	7	22	15	16	70	24

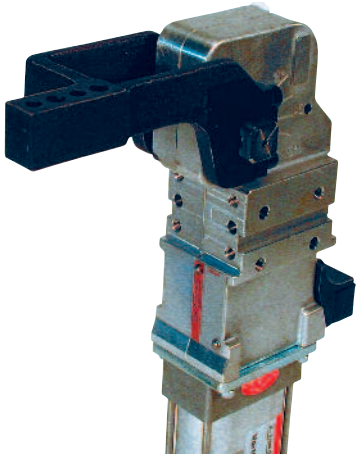
Lateral Clamping Arms for 82M-1



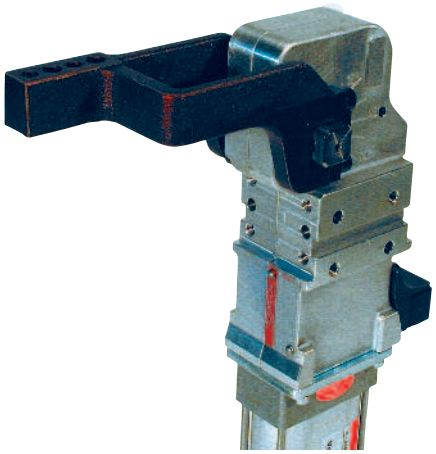
Series 82M-1

Clamp arm-variants

Clamp Arm Design U-type: Left
Right

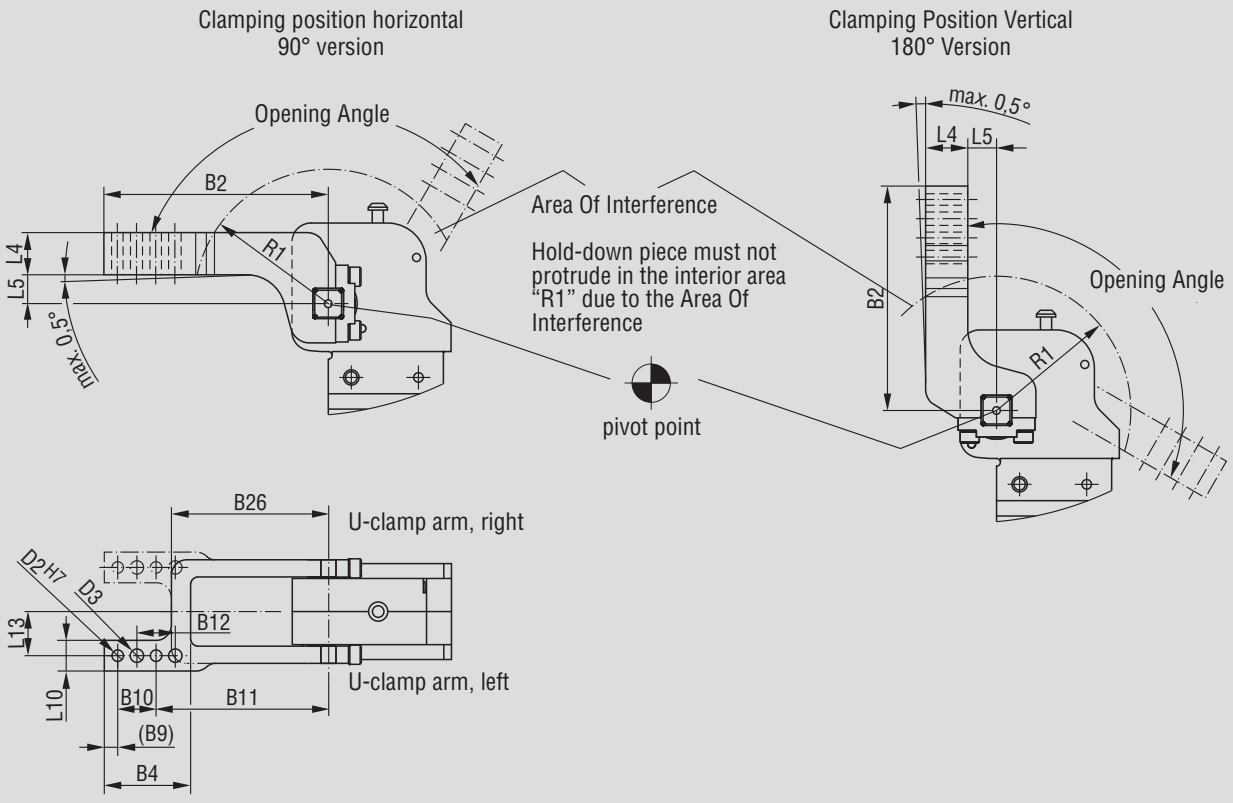


U-Type Left
Clamping Position: Horizontal



U-Type Right
Clamping Position: Horizontal

U-Clamp Arms, Left And Right

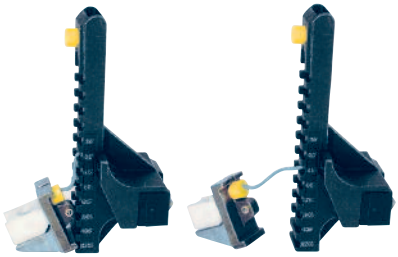


Technical Data, U-Clamp Arm Lateral

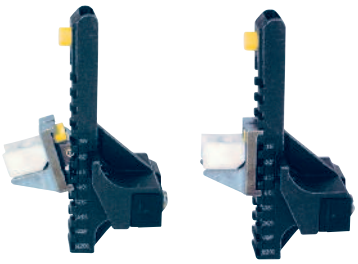
Order No. for set U-Type Clamping Arms for 82M-1		Max. opening angle in clamping position		Weight (kg)	B2	B4	B9	B10 ±0,02	B11	B12 ±0,2	B26	D2 H7 Ø	D3 Ø	L4 ±0,1	L5 (-0,5° max.)	L10	L13 ±0,1	R1
Left	Right	Horizontal	Vertical															
8UL401-15-117	**8UR401-15-117**	120°	120°	0.47	117	45	7	20	90	20	82	6	7	22	15	16	23	70
8UL401-45-107	**8UR401-45-107**	120°	120°	0.5	107	48	7	20	80	20	69	6	7	22	45	16	23	70
8UL401-00-117	**8UR401-00-117**	120°	105°	0.43	117	45	7	20	90	20	82	6	7	22	0	16	23	70

Simple Adjustment Of Opening Angle (Pictures show sensor-box separated from clamp)

120° Opening Angle
(Delivery Condition)



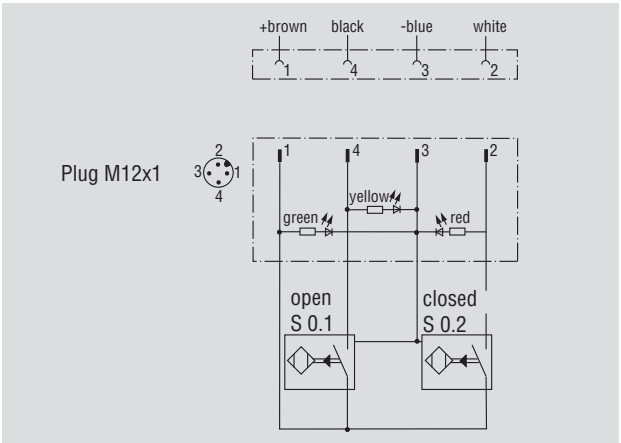
Click-out of bumper



Click-in in new position (60°)
(Sensor box fit for reassembling to clamp)

Model no.			Standard Opening Angle	Max. holding torque [Nm]	Clamping torque at 5 bar [Nm]	Drive shaft for clamping arm options	Clamping Position	Cylinder Ø	Air Consumption per double stroke at 5 bar [dm³]	Weight ~ [kg]
w/o Sensing	**w/** ind. sensing Connector M12x1, fixed									
	Turck	Pepperl & Fuchs								
82M-12304000	**82M-123040C8**	**82M-123040D8**	120°	380	120	Lateral, U-Central	Horizontal/Vertical	40	1.2	2

Sensing system immune to interference from d.c. arc welding and a.c. arc welding

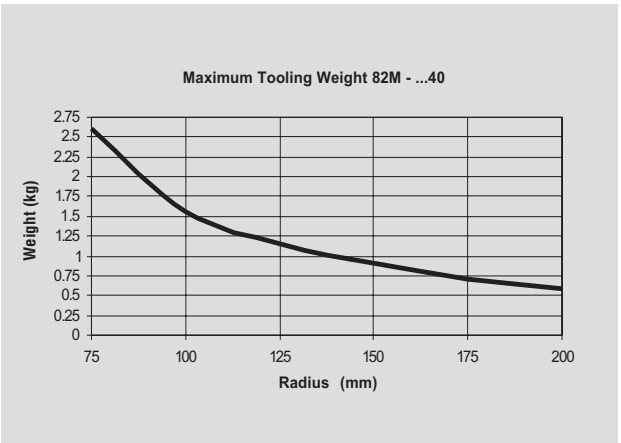


Inductive design:

- **C8** Connecting plug M12x1, fixed (Turck)
- **D8** Connecting plug M12x1, fixed (Pepperl & Fuchs)

Pin assignment

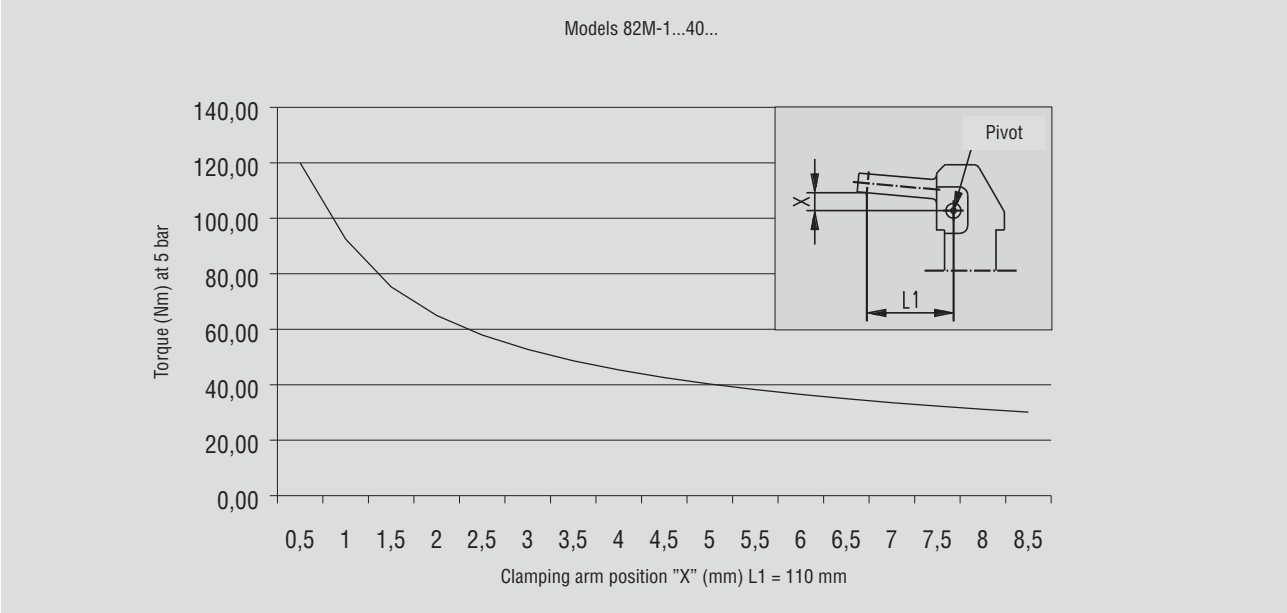
Maximum Tooling Weight



All details apply under an air pressure of 6 bar and opening and closure times of 1 second each.

Series 82M-1

Diagram of Clamping Force (at 5 bar)



Accessories

Specification			Order no. for set **82M-123040..**	Comment
Clamping arms				
Clamping arm variant	Fulcrum distance	Clamping position		
U-central	15	horizontal / vertical	**8UM401-15-117**	sets of U-type clamping arms consist of clamping arm, links and screws
	0		**8UM401-00-117**	
	45		**8UM401-45-107**	
lateral right/left	15	horizontal / vertical	**8S401-15-117**	sets of lateral clamping arms consist of clamping arm & set screws
lateral both sides	15	horizontal / vertical	**8S401-15-117**	you need 2 sets of clamping arms
U-left	15	horizontal / vertical	**8UL401-15-117**	sets of U-type clamping arms consist of clamping arm, links and screws
	0		**8UL401-00-117**	
	45		**8UL401-45-107**	
U-right	15	horizontal / vertical	**8UR401-15-117**	sets of U-type clamping arms consist of clamping arm, links and screws
	0		**8UR401-00-117**	
	45		**8UR401-45-107**	

Spare parts

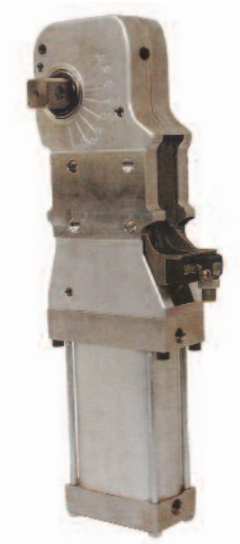
Specification	Structural component	Order no..	Comment
Complete sensor box for D8	82M-123040D8	**82M-000040D8**	Pepperl & Fuchs
Complete sensor box for C8	82M-123040C8	**82M-000040C8**	Turck
Limit stop box without sensing system	82M-12304000	**82M-00004000**	
Complete cylinder, Ø40	82M-123040..	**8PW-046-2**	
Seal kit and piston, Ø40	82M-123040..	**8PW-046-2-00**	

■ **Modular automation power clamp, enclosed design, lightweight, without hand lever**

Models: **82M-8D50**
82M-7D63

Features:

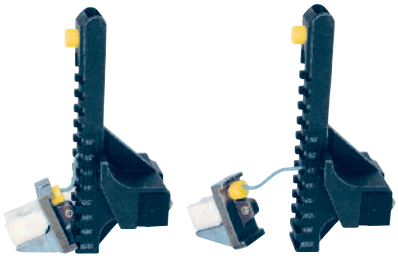
- Modular design
- Enclosed body
- Dirt-resistant
- Compact design
- High holding torque
- Long life cycle (3 million cycles
- Light weight (aluminium body)
- Wide range of clamping arm options
- Adjustable opening angle without need for accessory parts (15°-steps fron 15°...120°)
- Toggle action mechanism
- Inductive sensing module with LED display



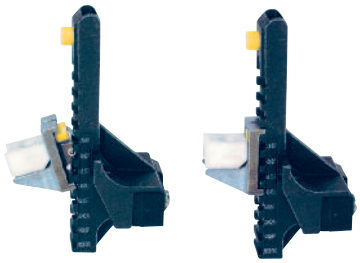
82M Series
Modular pnumatic power clamp,

Simple adjusting of opening angle (pictures show sensor-box separated from clamp)

120° Opening angle



Click-out of bumper



Click-in in new position (60°)
(sensor box fit for reassembling to clamp)

Technical data

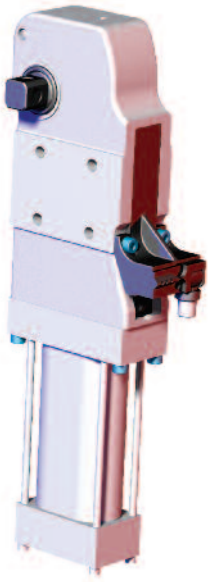
Model no.	Standard arm opening angle (15° increments)	Max. holding torque [Nm]	Clamping torque at 5 bar [Nm]	Cylinder Ø	Air consumption per double stroke at 6 bar [dm³]	Weight ~ [kg]	
82M-8D50	15°-120°	500	270	50	2.2	4.0	
82M-7D63	15°-120°	1000	420	63	3.8	4.6	

Series 82M-X

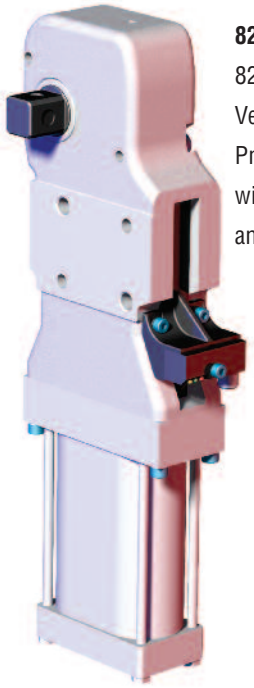
Model numbering code for 82M-x.....

Example model No.: 82M – 8 | D* | 50

Basic Clamp Model

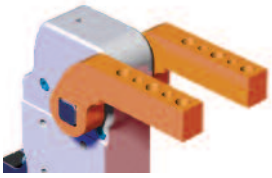


82M-8
82M Series
Version 8,
Pneumatic Clamp
with 50mm Cylinder
and NAAMS Mounting

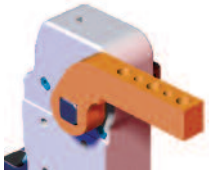


82M-7
82M Series
Version 7,
Pneumatic Clamp
with 63mm Cylinder
and NAAMS Mounting

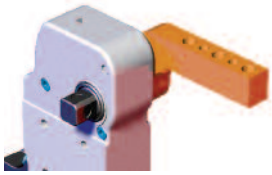
Drive Specification*



(**D**)* Dual Drive -
Dual Identical Arms



Right Hand Arm Mounting
(**DR**) Dual Drive- Single Arm



Left Hand Arm Mounting
(**DL**) Dual Drive - Single Arm

Cylinder Bore

50 - 50mm Cylinder (82M-8)
(NPT Ports on Sensor Side)
5G - 50mm Cylinder (82M-8)
(G Ports on Sensor Side)

63 - 63mm Cylinder (82M-7)
(NPT Ports on Sensor Side)
6G - 63mm Cylinder (82M-7)
(G Ports on Sensor Side)

(*)To order **Dual Arm Clamps** with **Non-Identical Arms** or **Different Arm Positions:**
Duplicate Arm Style & Mount Position for RH and LH Arms
82M-xDxx-xxx-
(xxx xxx) - (xxx xxx)
RH Arm LH Arm

Model numbering code for 82M-x……. (Con't)

C8 | 0 | H | XXX* | 9A* | P

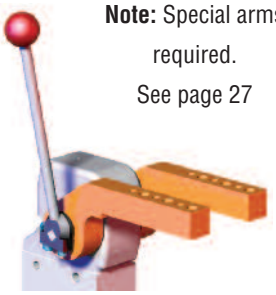
(P) Painted Arm

Additional Charge

Handle Option (63mm Only)

Note: Special arms required.

See page 27



Arm Style*

82M8

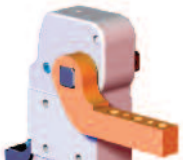
(See page 23)

82M7

(See page 26)

Arm Mount Position*

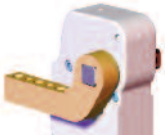
(**9A**) 90° Standard Angle



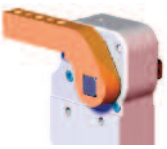
(**9B**) 90° Inverted Angle

(**18A**) 90° Standard Angle

(**18B**) 90° Inverted Angle

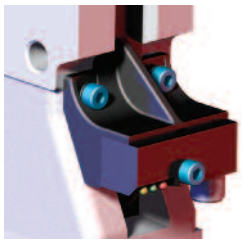


(**27A**) 90° Standard Angle



(**27B**) 90° Inverted Angle

Sensor Options



(C8) 10...30 VDC 150mA, PNP, 4-Pin, M12x1 (Turck)

(E6) 10...30 VDC 150mA, PNP, 4-Pin, M12x1 (Baluff)

Clamp Arm Opening Angle

(**0**) 120°

(**2**) 105°

(**3**) 90°

(**4**) 75°

(**5**) 60°

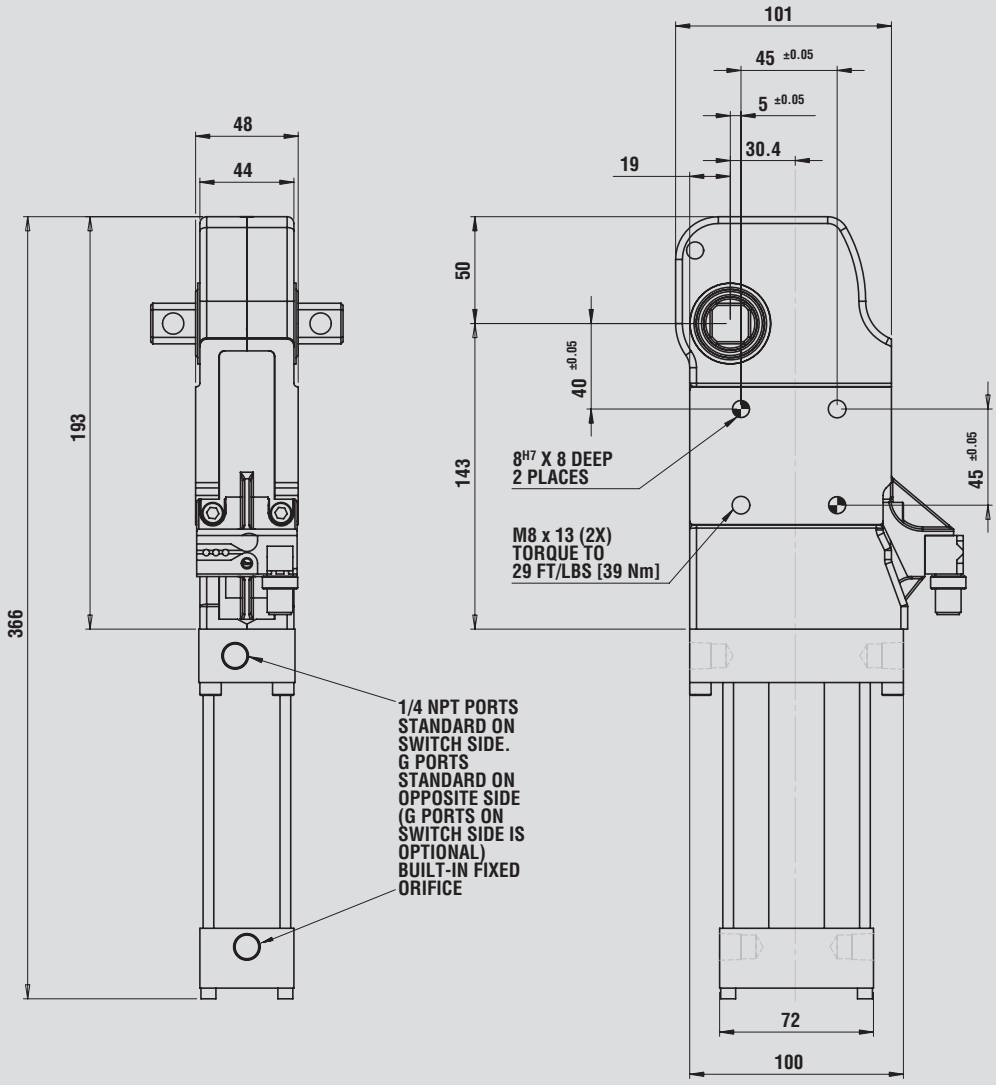
(**6**) 45°

(**7**) 30°

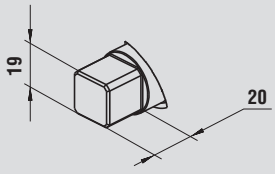
(**8**) 15°

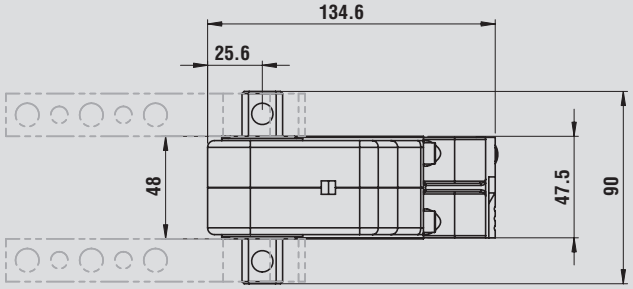
Model 82M-8

82M-8D50 Dimensions



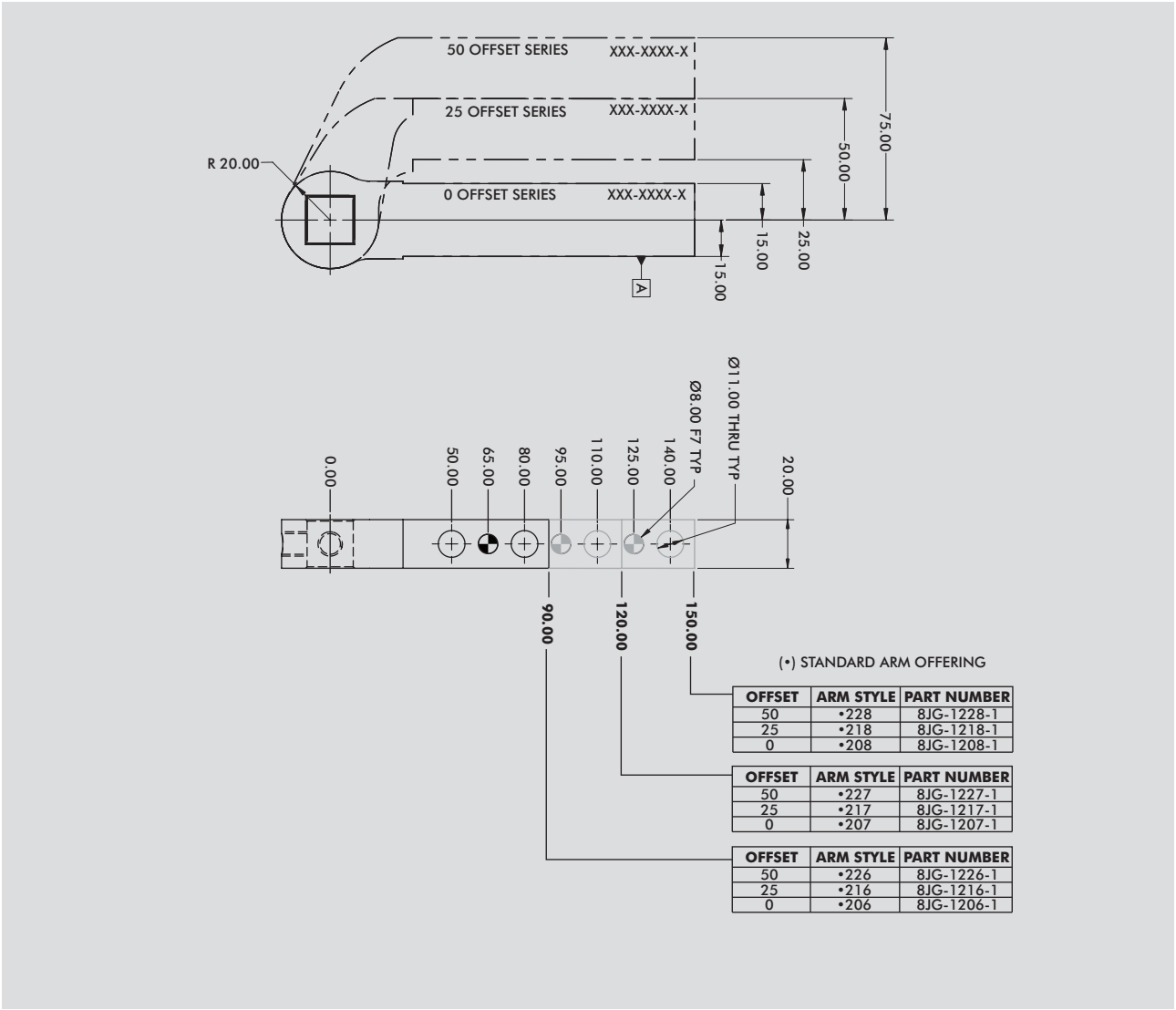
Dimensions of the driven shaft





Important: Power clamps to be operated with external pneumatic one-way flow control valve only.

82M-8D50 Standard Arms



(•) STANDARD ARM OFFERING

OFFSET	ARM STYLE	PART NUMBER
50	•228	8JG-1228-1
25	•218	8JG-1218-1
0	•208	8JG-1208-1

OFFSET	ARM STYLE	PART NUMBER
50	•227	8JG-1227-1
25	•217	8JG-1217-1
0	•207	8JG-1207-1

OFFSET	ARM STYLE	PART NUMBER
50	•226	8JG-1226-1
25	•216	8JG-1216-1
0	•206	8JG-1206-1

Note:

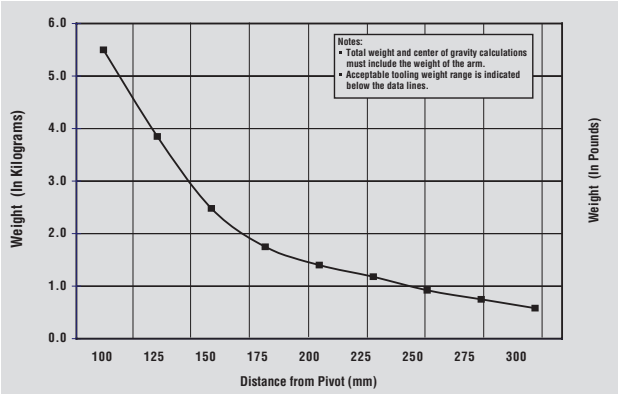
Any NAAMS style arm is available as a custom item. Please contact DE-STA-CO for lead time and pricing.

Arm Style (Standard and Non-Standard)	**Arm Position and Orientation**					
	9A	**9B**	**18A**	**18B**	**27A**	**27B**
201-203, 206-208	120°	120°	90°	90°	N/A	N/A
211-213, 216-218	120°	N/A	30°	120°	N/A	30°
221-223, 226-228	120°	N/A	N/A	120°	N/A	60°

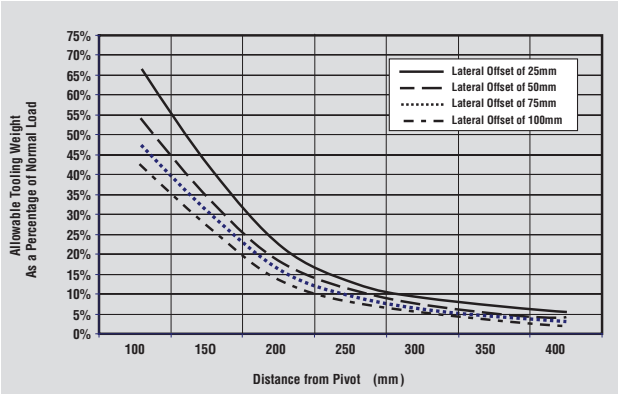
Arm Opening	**120°**	**105°**	**90°**	**75°**	**60°**	**45°**	**30°**	**15°**
Cylinder Stroke	76.0	68.5	61.3	54.2	46.8	39.3	31.6	21.1

Model 82M-8

82M-8D50 Maximum Tooling Weight (distance from pivot)



82M-8D50 Allowable Tooling Weight (for Offset Loads)



Notes:

- Total weight and center of gravity calculations must include the weight of the arm.
- Acceptacle tooling weight range is indicated below the data lines

Conversions:

Weight	Pressure
kg x 2.2 = lb.	Bar x 14.5 = psi
lb x .45 - kg	psi x .069 = Bar
Distance	**Force**
in x 25.4 = mm	ft/lb. x 1.356 = Nm
mm x .03937 = in	Nm x 0.738 = ft/lb.

Calculation of Maximum Tooling Weight for Offset Loads

To determine the allowable maximum tooling weight for an 82M-8D50 power clamp with a distance of 100mm from the pivot point and a lateral offset of 25mm, use the following steps:

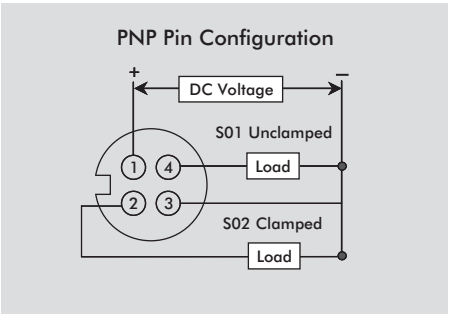
Step 1: Determine maximum tooling weight for the clamp. At 100mm from the pivot, the maximum load is 5.5Kg

Step 2 The Lateral offset will reduce the maximum load. Use the chart above to determine the allowable percentage of maximum load. In this example, a lateral offset of 25mm that is 100mm from the pivot yields a percentage of approximately 67%.

The maximum allowable tooling can now be determined to be 5.5 Kg x 67% = 3.7 Kg

Formula to Caculate of Exerting Force of the Arm:

Maximumm Clamp Exerting Force (lb) = 32.9 x Line Pressure (PSI) / Distance from clamp arm pivot point to clamping point (In)



Wiring diagram of electrical sensing system

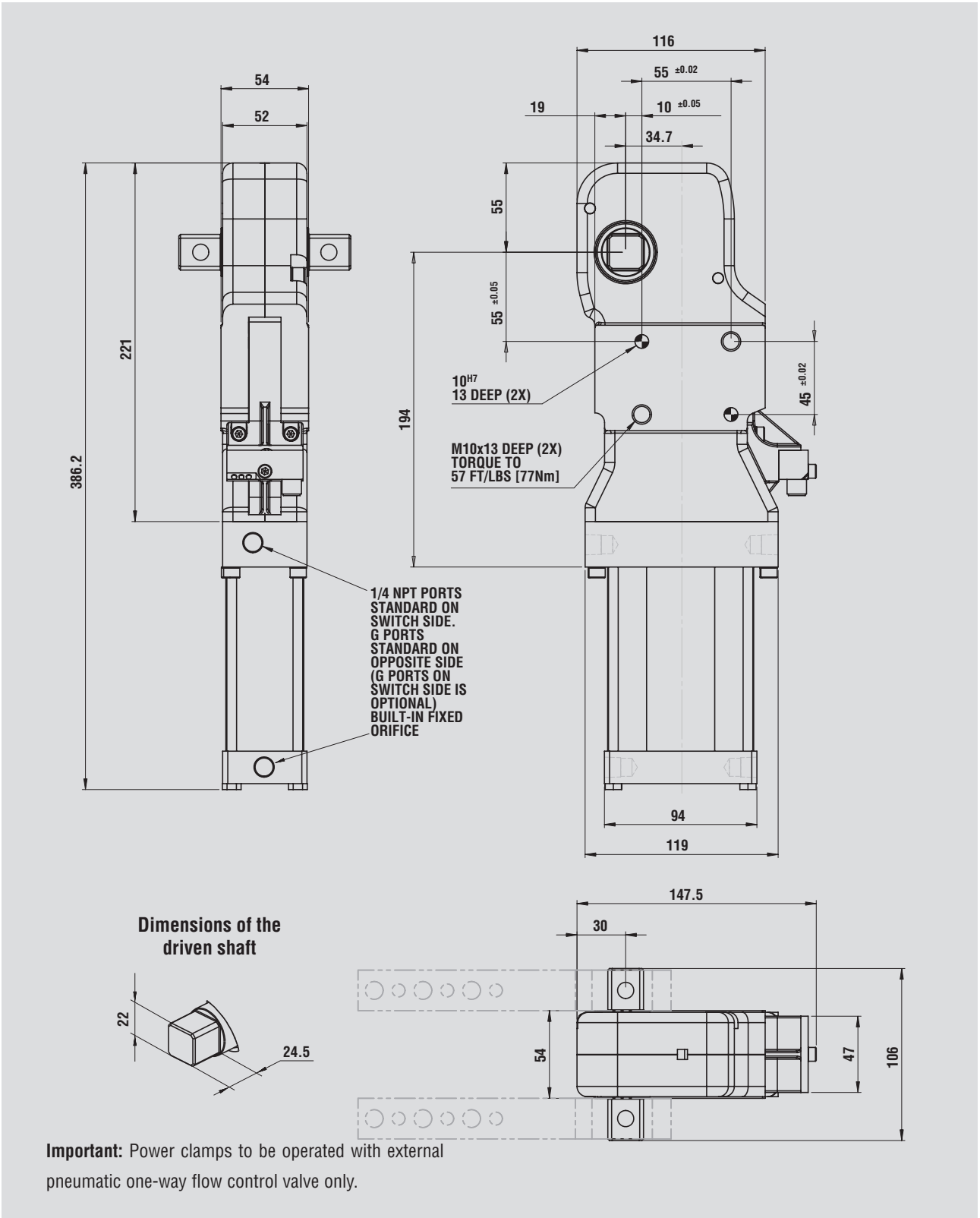
Sensing system immune to interference from d.c. arc welding and a.c. arc welding

Sensor Options:

- **C8** 10...30 VDC 150mA, PNP, 4-Pin, M12x1 (Turck)
- **D8** 10...30 VDC 150mA, PNP, 4-Pin, M12x1 (P & F)

Contact DE-STA-CO for more sensor options

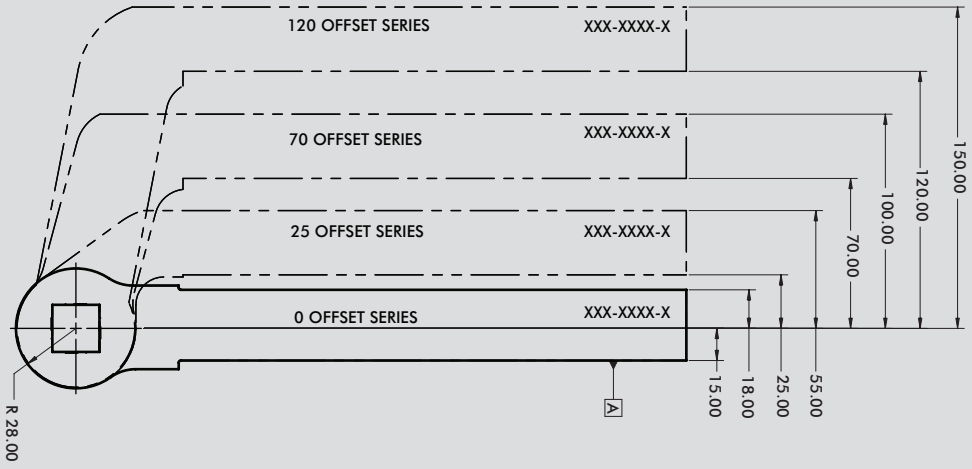
82M-7D63 Dimensions



Important: Power clamps to be operated with external pneumatic one-way flow control valve only.

Model 82M-7

82M-7D63 Standard Arms



(•) STANDARD ARM OFFERING

OFFSET	ARM STYLE	PART NUMBER
120	•043	8JG-1043-1
70	•031	8JG-1031-1
25	•019	8JG-1019-1
0	•007	8JG-1007-1

OFFSET	ARM STYLE	PART NUMBER
120	044	8JG-1044-1
70	•032	8JG-1032-1
25	•020	8JG-1020-1
0	•008	8JG-1008-1

OFFSET	ARM STYLE	PART NUMBER
120	045	8JG-1045-1
70	•033	8JG-1033-1
25	021	8JG-1021-1
0	•009	8JG-1009-1

STANDARD BLANK ARM OFFERING

OFFSET	ARM STYLE	PART NUMBER
20	•018	8JG-1018-1

OFFSET	ARM STYLE	PART NUMBER
120	048	8JG-1048-1
70	036	8JG-1036-1
25	024	8JG-1024-1
0	012	8JG-1012-1

OFFSET	ARM STYLE	PART NUMBER
120	047	8JG-1047-1
70	•035	8JG-1035-1
25	023	8JG-1023-1
0	011	8JG-1011-1

OFFSET	ARM STYLE	PART NUMBER
120	046	8JG-1046-1
70	•034	8JG-1034-1
25	022	8JG-1022-1
0	010	8JG-1010-1

Note:

Any NAAMS style is available as a custom item. Please contact DE-STA-CO for lead time and pricing.

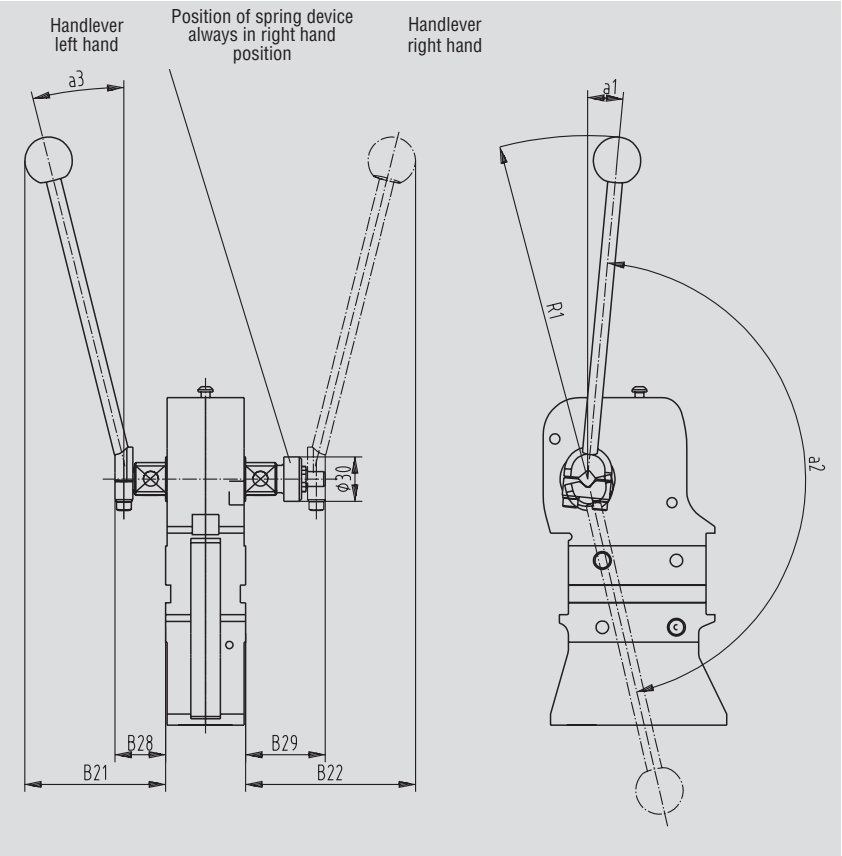
Please see note on page 27 regarding arms for clamps with handle option.

Arm Style (Standard and Non-Standard)	Arm Position and Orientation					
	9A	9B	18A	18B	27A	27B
001 - 012	120°	120°	90°	90°	N/A	N/A
019 - 024	105°	N/A	45°	120°	N/A	30°
025 - 036	105°	N/A	N/A	120°	N/A	60°
037 - 048	105°	N/A	N/A	120°	N/A	75°

Arm Opening	120°	105°	90°	75°	60°	45°	30°	15°
Cylinder Stroke	85.0	75.4	67.0	58.1	49.8	41.1	32.4	22.8

Modular Automation Power Clamp, Enclosed Design, Lightweight, with Hand Lever

82M-7D63 Additional dimensions for hand lever version



Standard opening angle	Max. holding torque [Nm]	Clamping torque at 5 bar [Nm]	Cylinder Ø	Air consumption per double stroke at 5 bar [dm³]	Weight ~ [kg]
120°	1000	420	63	3.8	4.8

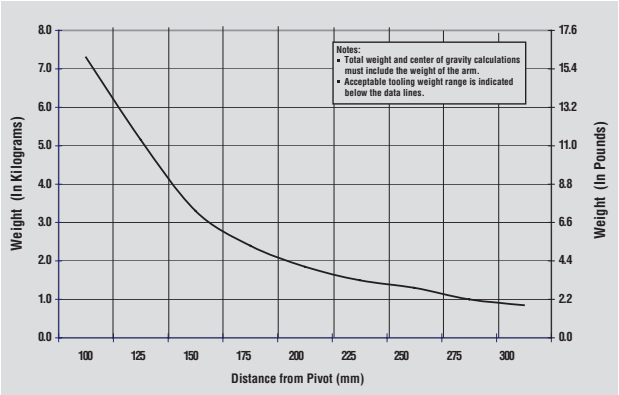
Technical data (additional dimensions of hand lever version)

Model no.	a1 ~	B21 ~	B22 ~	B28 max	B29 max	R1 ~	Hand lever slew angle a2 with reference to opening angle of clamping arm							
							15°	30°	45°	60°	75°	90°	105°	120
82M-7D63	5°	97	117	36	54	240	50°	65°	79°	93°	110°	125°	140°	160°

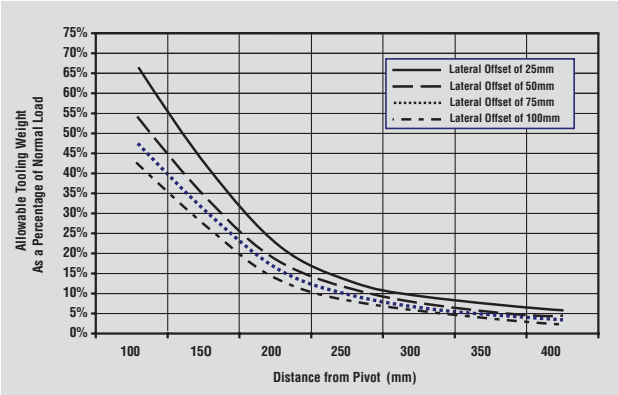
Note: Handle version requires arms that are 20mm wide.
Please replace the “0” in the arm code with “13” in the model callout to specify a 20mm wide arm.
Example: 82M-7D63C80H-**13**209A

Series 82M-7

82M-7D63 Maximum Tooling Weight (distance from pivot)



82M-7D63 Allowable Tooling Weight (for Offset Loads)



Notes:

- Total weight and center of gravity calculations must include the weight of the arm.
- Acceptacle tooling weight range is indicated below the data lines

Conversions:

Weight	Pressure
kg x 2.2 = lb.	Bar x 14.5 = psi
lb x .45 - kg	psi x .069 = Bar
Distance	**Force**
in x 25.4 = mm	ft/lb. x 1.356 = Nm
mm x .03937 = in	Nm x 0.738 = ft/lb.

Calculation of Maximum Tooling Weight for Offset Loads

To determine the allowable maximum tooling weight for an 82M-7D63 power clamp with a distance of 100mm from the pivot point and a lateral offset of 25mm, use the following steps:

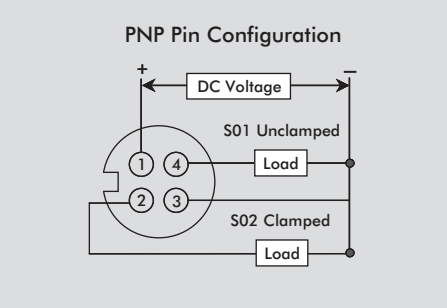
Step 1: Determine maximum tooling weight for the clamp. At 100mm from the pivot, the maximum load is 7.3Kg

Step 2 The Lateral offset will reduce the maximum load. Use the chart above to determine the allowable percentage of maximum load. In this example, a lateral offset of 25mm that is 100mm from the pivot yields a percentage of approximately 67%.

The maximum allowable tooling can now be determined to be 7.3 Kg x 67% = 4.9 Kg

Formula to Caculate Exerting Force of the Arm:

Maximum Clamp Exerting Force (lb) = 32.9 x Line Pressure (PSI) / Distance from clamp arm pivot point to clamping point (In)



Wiring diagram of electrical sensing system

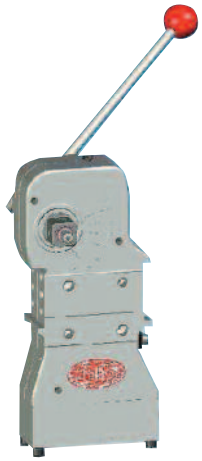
Sensing system immune to interference from d.c. arc welding and a.c. arc welding

Sensor Options:

- **C8** 10...30 VDC 150mA, PNP, 4-Pin, M12x1 (Turck)
- **E6** 10...30 VDC 150mA, PNP, 4-Pin, M12x1 (Baluff)

Contact DE-STA-CO for more sensor options

Modular manual clamp



52H-623KAA
Modular manual clamp,
interchangeable with 82M-6

Features

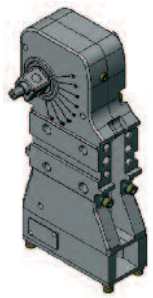
- Compact closed aluminium body
- Toggle action mechanism with locking unit for open position
- Hand lever can be welded in correct position
- Hand lever can be mounted left or right side of body
- Interchangeable with pneumatic clamp 82M-6
- Opening angle adjustable in 15° steps (15° – 120 °)
- Wide range of clamping arm variants
- Mounting areas of front, back and sides
- Inductive sensing module with LED display

Model no.		Standard	Max.	Drive shaft for	Clamping position	Weight
without sensing	**with** inductive sensing Connector M12x1 fixed Fabr. Turck	opening angle	holding torque [Nm]	clamping arm variant		~ [kg]
52H05-623KAA	**52H05-623KA1**	120°	1000	lateral, U-centric/U-side	horizontal/vertical	4,1
52H05-623SAA	**52H05-623SA1**	120°	1000	lateral, U-centric/U-side	horizontal/vertical	4,1

Model numbering code for 52H05-6.....

Example Model No.: 52H05 – 623 K AA

52H05-623



Basic model

K = with handlever welded.
Handlever-Set 8KB-053-1

S = Handlever weldable
Handlever-Set 8KB-052-1

Handlever

AA = without sensing
82M-000000AA
(8AB-066-2)

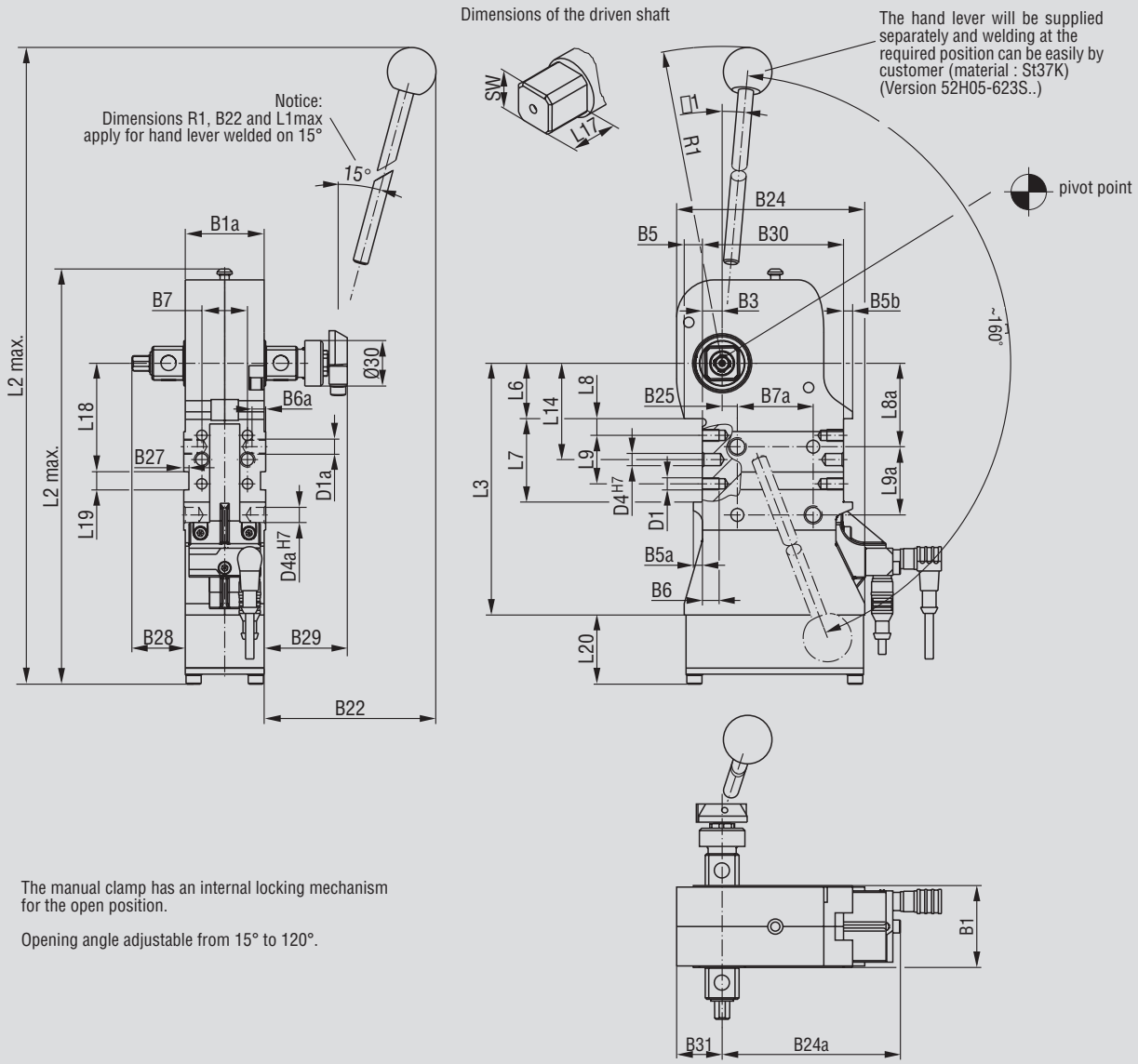
A1 = inductive sensing
82M-000000A1
Fabr. Turck

Sensing system

Spare parts

Specification	Structure component	Order no.	
Hand lever set (weldable)	52H05-6...	**8KB-052-1**	
Hand lever set welded	52H05-6...	**8KB-053-1**	
Complete sensor box for A2 sensing system	52H05-6...A1	**82M-000000A1**	
Box without sensors	52H05-6...AA	**82M-000000AA**	

Series 52H05-6



Model no.	B1 ±0.1	B1a	B3 ±0.1	B5	B5a	B5b	B6	B6a	B7* ±0.1	B7a* ±0.1	B22	B24	B24a	B25 ±0.1	B27	B28 max.	B29 max.	B30 +0.1	B31	D1	D1a
52H05-623KA1 **52H05-623SA1** **52H05-623KAA** **52H05-623SAA**	54	52	13	12	6	6	11	9	30	50	118	124	119	10	3.5	36	54	93	30	M8	M10

Model no.	D4 H7	D4a H7	L1 max.	L2 max.	L3	L6 ±0.05	L7 +0.1	L8 ±0.1	L8a ±0.1	L9 ±0.1	L9a ±0.1	L14 ±0.1	L17	L18	L19 N9	L20	SW H9	R1
52H05-623KA1 **52H05-623SA1** **52H05-623KAA** **52H05-623SAA**	8	10	439	276	166	36.5	55	11	55	32	45	63.5	21	71.5	12	46	22	240

* Tolerance of the distance between the dowel holes ±0.02

Automation Power Clamps, Enclosed and Narrow Design for 2 Clamping Arms

Models: **82D40-2…**
82D63-4…

82D40-223C900B

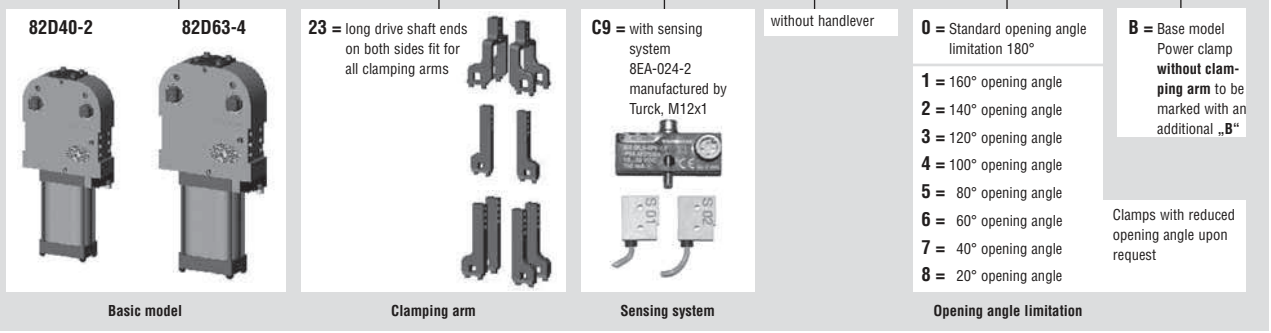
Features:

- Compact, enclosed design
- Narrow design
- 2 lateral and 1 front mounting areas
- Integrated inductive sensing module with LED display
- Cylinder diameter 40 mm or 63 mm

Model no. with ind. sensing connector M12x1, fixed (Turck)	Clamping position	Standard opening angle	Driven shaft for clamping arm variants	Max. holding torque [Nm]	Clamping torque at 5 bar [Nm]	Cylinder Ø	Air consumption per double stroke at 5 bar [dm³]	Weight ~ [kg]
82D40-223C900B	vertical	180°	lateral, both sides; U-type clamping arms	55	55	40	1.2	2.5
82D63-423C900B	vertical	180°	lateral, both sides; U-type clamping arms	120	120	63	3.8	4.5

Numbering code for 82D40/63

Example model no.: 82D63 – 4 03 C9 0 0 B

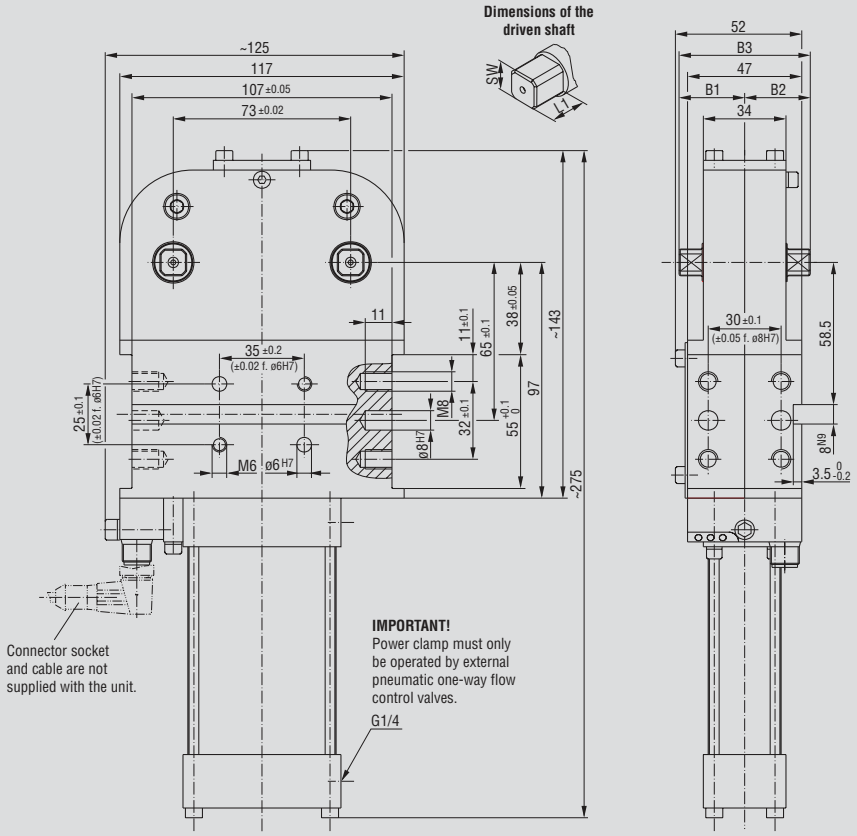


Technical data of 82D40-223C900B and 8263-423C900B

Model no. w/ind. sensing; connector M12x1, fixed	B1	B2	B3	L1	SW	G
82D40-223C900B	30	30	60	12.5	11	1/4
82D63-423C900B	47	47	94	21	19	1/4

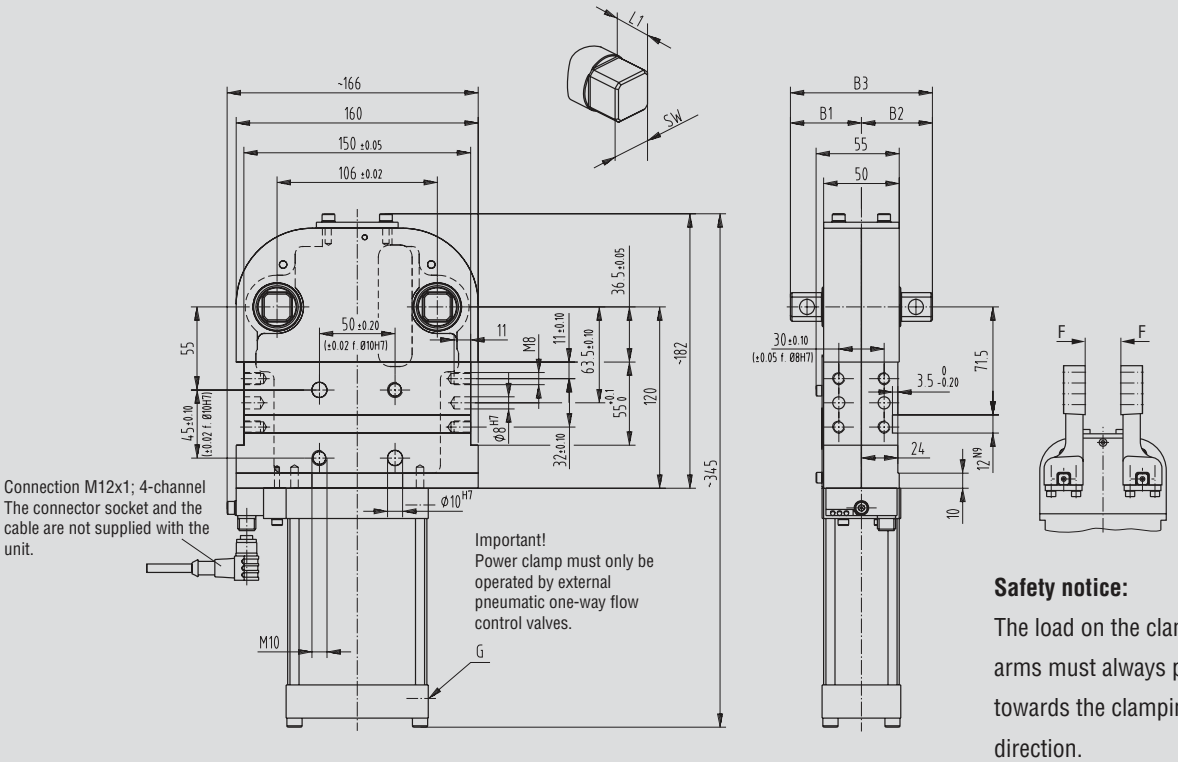
Series 82D40-2/82D63

82D40-223C900B



Safety notice:
The load on the clamping arms must always point towards the clamping direction.

82D63-423C900B



Safety notice:
The load on the clamping arms must always point towards the clamping direction.

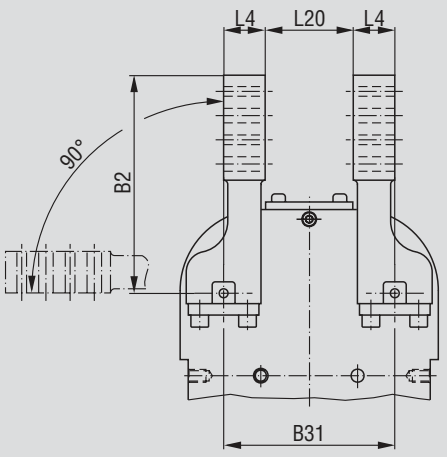
Base model with 2 U-type clamping arms, small gap between clamping arms

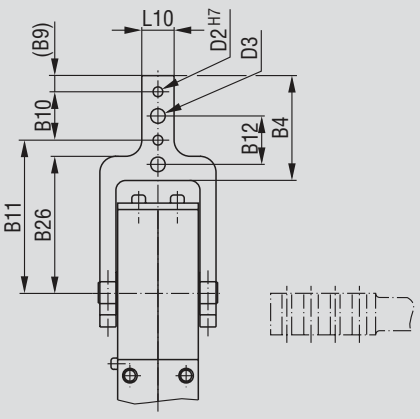
Clamping Arms U-type central clamping arm

Technical data of U-type central clamping arms

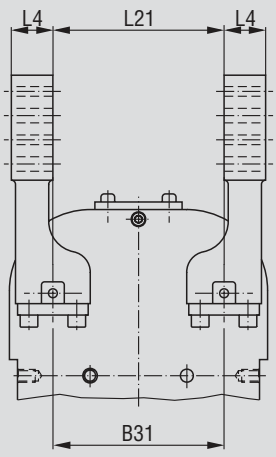
Model no.	Order no. for U-type clamping arm set (1 clamping arm)	Clamping position	Standard opening angle	B2	B4	B9	B10 ±0.02	B11 ±0.1	B12 ±0.2	B26	B31 ±0.02	D2 H7 Ø	D3 Ø	L4	L10 ±0.1	L20	L21
82D40-223C900B	**8JG-065-2-01**	vertical	180°	105	45.3	6	20	79	20	68.2	73	6	7	20	12	33	73

Drawing shows standard mounting (L20)





Drawing shows further mounting possibility (L21)



Series 82D40-2/82D63

Clamping Arm U-type central clamping arm

Base model with 2 U-type clamping arms, small gap between clamping arms

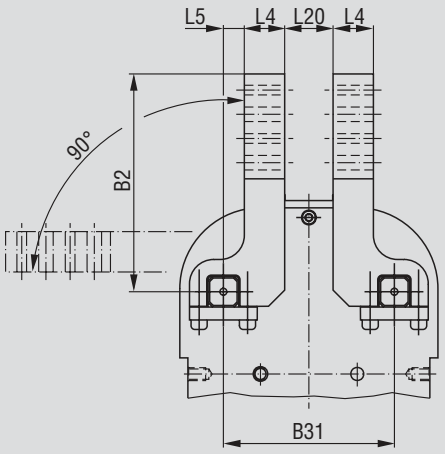
Technical data of U-type central clamping arms

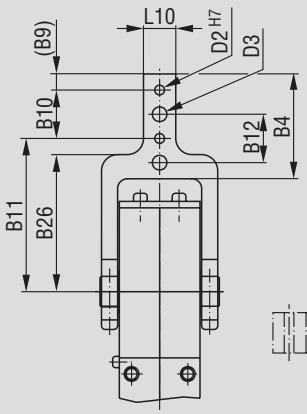
Model no.	Order no. for U-type clamping arm set (1 clamping arm)	Clamping position	Standard opening angle	B2	B4	B9	B10 ±0.02	B11 ±0.1	B12 ±0.2	B26
82D63-423C900B	**8JG-069-1-01**	vertical	180°	144	64.3	9	30	105	30	95

Model no.	Order no. for U-type clamping arm set (1 clamping arm)	B31 ±0.02	D2 H7 Ø	D3 Ø	L4	L5*	L10	L20	L21
82D63-423C900B	**8JG-069-1-01**	106	6	9	28	15	20	20	136

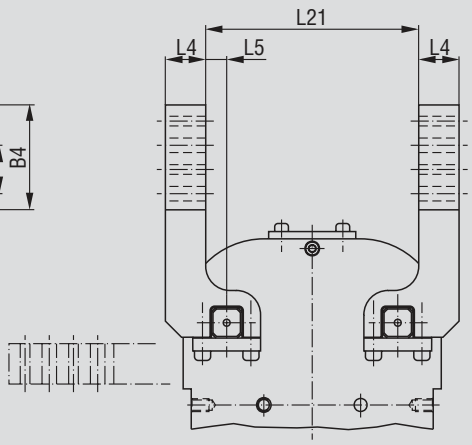
* Tolerance applies to 80 mm gap, measured from fulcrum

Drawing shows standard mounting (L20)





Drawing shows further mounting possibility (L21)



Base model with 4 lateral clamping arms, large gap between clamping arms

Clamping Arms

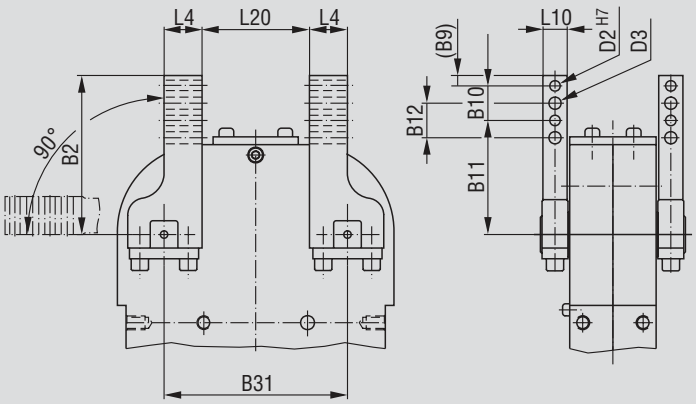
Lateral clamping arm	left
Lateral clamping arm	right
Lateral clamping arm	both sides

Technical data of lateral clamping arms

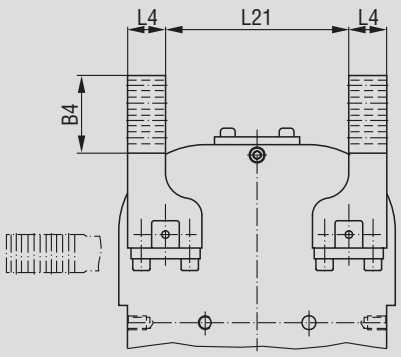
Model no.	Clamping arm	Order no. for 1 set of lateral clamping arms	Clamping position	Standard opening angle	B2	B4	B9	B10 ±0.02	B11 ±0.1	B12 ±0.2
82D40-223C900B	lateral, left lateral, right lateral, both sides	**8JG-066-1-01**	vertical	180°	105	45	6	20	79	20

Model no.	Clamping arm	Order no. for 1 set of lateral clamping arms	B31 ±0.02	D2 H7 Ø	D3 Ø	L4	L10 ±0.1	L20	L21
82D40-223C900B	lateral, left lateral, right lateral, both sides	**8JG-066-1-01**	73	6	7	20	12	33	73

Drawing shows standard mounting (L20) with four lateral clamp arms



Drawing shows further mounting possibility (L21)



Series 82D40-2/82D63

Clamping Arms

Lateral clamping arm	left
Lateral clamping arm	right
Lateral clamping arm	both sides

Base model with 4 lateral clamping arms, large gap between clamping arms

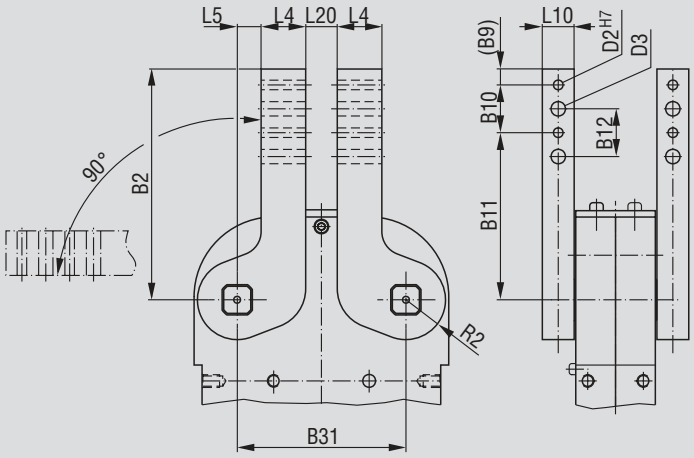
Technical data of lateral U-type clamping arms

Model no.	Clamping Arms	Order no. for 1 set of lateral clamping arms	Clamping position	Standard opening angle	B2	B4	B9	B10 ±0,02	B11 +0.1	B12 ±0.2
82D63-423C900B	lateral, left lateral, right lateral, both sides	**8JG-070-1-01**	vertical	180°	144	74	9	30	105	30

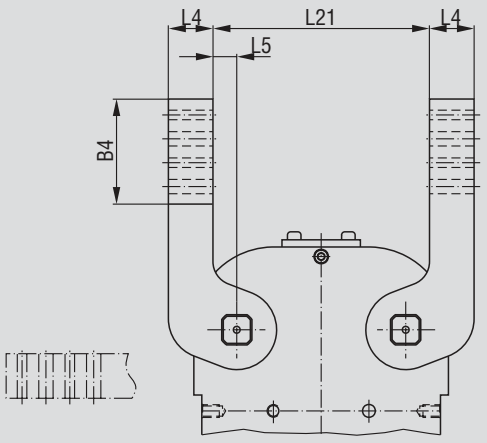
Model no.	Clamping Arms	Order no. for 1 set of lateral clamping arms	B31 ±0.02	D2 H7 Ø	D3 Ø	L4	L5*	L10 -0.1	L20	L21	R2
82D63-423C900B	lateral, left lateral, right lateral, both sides	**8JG-070-1-01**	106	6	9	28	15	20	20	136	28

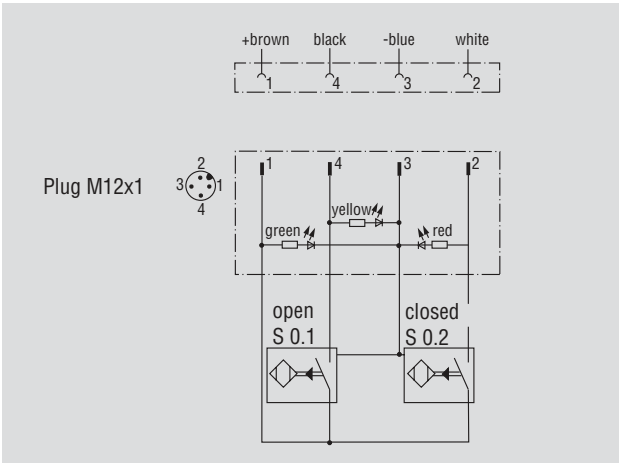
*Tolerance applies to 80 mm gap, measured from fulcrum

Drawing shows standard mounting (L20) with four lateral clamp arms



Drawing shows further mounting possibility (L21)





Wiring diagram of the electrical sensing system

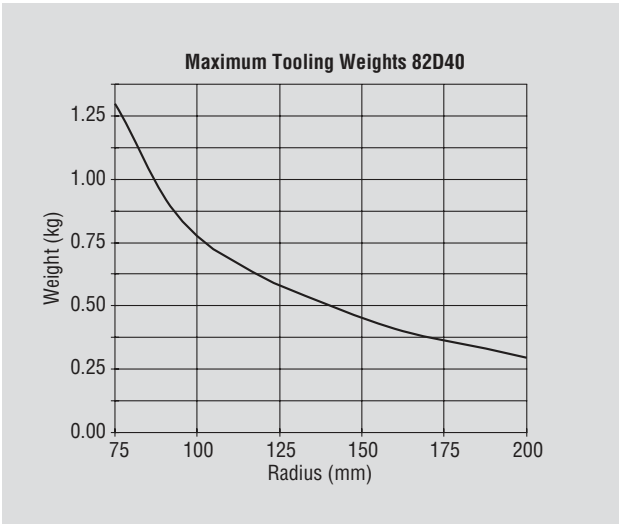
Sensing system immune to interference from d.c. arc welding and a.c. arc welding

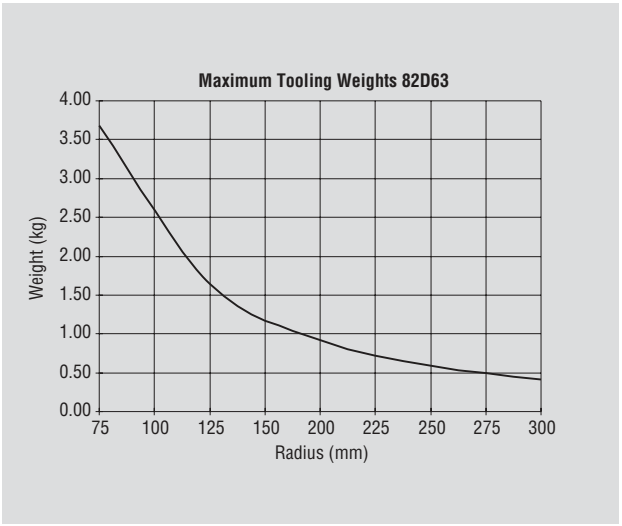
Inductive design:

- **C9**: ind. with LEDs, plug connector M12x1, fixed (Turck)

Pin assignment

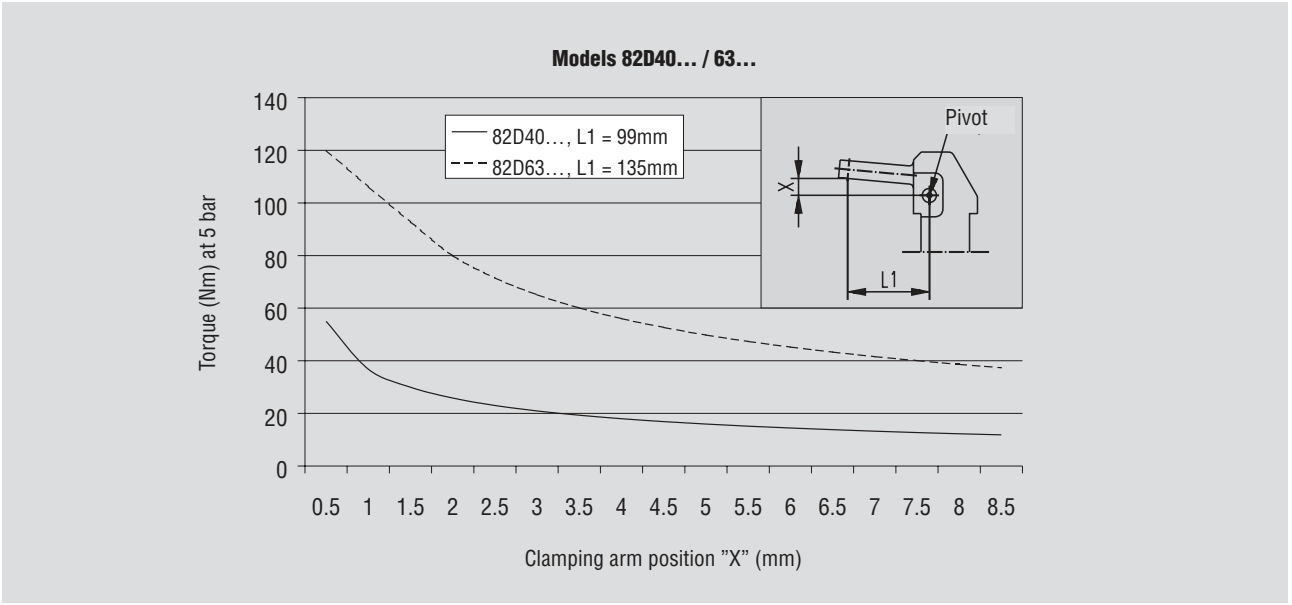
Maximum Tooling Weight





All details apply under an air pressure of 6 bar and opening and closure times of 1 second each

Diagram of clamping force (at 5 bar)



Series 82D40-2/82D63

Clamping Arms as Accessories

Specification		Structural component		Comment
		82D40-223C900B	82D63-423C900B	
		Order no. for set	Order no. for set	
Clamping Arms				
Clamping Arm Options	Clamping position			
U-central	Vertical	**8JG-065-2-01**	**8JG-069-1-01**	Sets of U-type clamping arms consist of clamping arm, links and screws
lateral right/left	Vertical	**8JG-066-1-01**[1)]	**8JG-070-1-01**[2)]	sets of lateral clamping arms consist of [1)] clamping arm, links and screws [2)] clamping arm and set screws you need 2 sets of clamping arms
lateral both sides	Vertical	**8JG-066-1-01**[1)]	**8JG-070-1-01**[2)]	you need 4 sets of clamping arms

Accessories

Specification		Structural Component	
		82D40-2..C900	82D63-4..C900
		Order no.	Order no.
Opening Angle Limitation		**8CE-082-1**	**8CE-081-1**
Standard	180°	11.4 mm	14.4 mm
	160°	15.1 mm	20.0 mm
	140°	18.5 mm	24.8 mm
	120°	22.2 mm	29.6 mm
	100°	25.8 mm	34.3 mm
	80°	28.0 mm	39.0 mm
	60°	33.0 mm	43.8 mm
	40°	37.0mm	49.1 mm
	20°	41.8 mm	56.2mm

Spare Parts

Specification	Order no. for Structural Component	
	82D40-2	82D63-4
Cylinder	**8PW-016-2**	**8PW-024-2**
Seal kit	**8PW-016-1-00**	**8PW-024-1-00**
Integrated sensing system C9 Connector plug M12x1, fixed (Turck)	**8EA-021-2**	**8EA-024-2**

Model **82G80**
Automation power clamp, heavy-duty design

Features:

- Dirt-resistant
- Compact, enclosed design
- High holding torques
- Long life cycle
- Wide range of clamping arm variants
- Mounting areas at front, back and sides
- Toggle action mechanism
- Inductive sensing module with LED display
- Enclosed steel body

Model no.	Standard Opening Angle	Driven Shaft for Clamping Arm Options	Max. holding torque [Nm]	Clamping torque at 5 bar [Nm]	Cylinder Ø	Air consumption per double stroke at 5 bar [dm³]	Weight ~ [kg]
82G80	135°	lateral-both sides lateral-left lateral-right or U-central	2200	1100	80	5.8	14

Spare parts

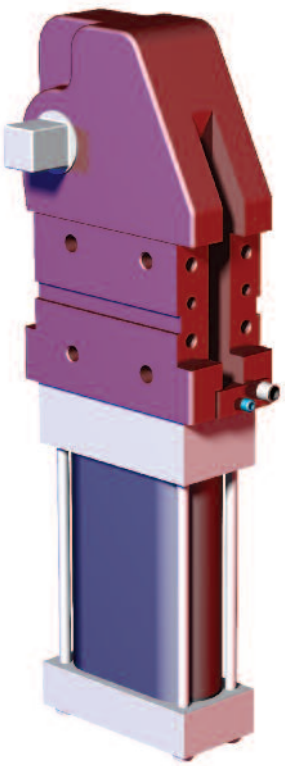
Components	
Cylinder	**8PW-1001-1**
Seal kit	**8PW-1001-1-00**
Sensing system C9 Connector plug M12x1, fixed (Turck)	**8EA-026-2**

Series 82G-80

Model numbering code for 82G-80.....

Example model No.: 82G80 – 4 D* C9

Basic Clamp Model

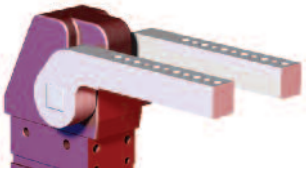


82G80-4
82M Series, Version 4, Pneumatic Clamp 80mm Oval Cylinder with G 1/4 Ports

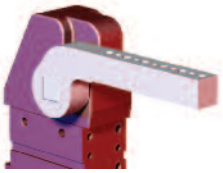
82G8S-4
82M Series, Version 4, Pneumatic Clamp 80mm Oval Cylinder with #6 SAE Ports

82G8N-4
82M Series, Version 4, Pneumatic Clamp 80mm Oval Cylinder with 1/4 NPT Ports

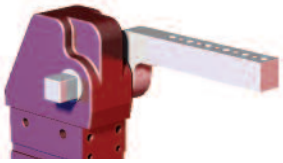
Drive Specification*



(**23**)* Dual Drive - Dual Identical Arms

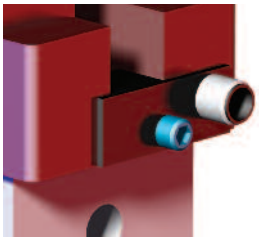


Right Hand Arm Mounting
(**12**) Dual Drive- Single Arm



Left Hand Arm Mounting
(**11**) Dual Drive - Single Arm

Sensor Options



(C9) 10...30 VDC 150mA, PNP, 4-Pin, M12x1 (Turck)

***To order **Dual Arm Clamps** with **Non-Identical Arms** or **Different Arm Positions:**
Duplicate Arm Style & Mount Position for RH and LH Arms
82M-xDxx-xxx-
(xxx xxx) - (xxx xxx)
RH Arm LH Arm

Model numbering code for 82G-80……. (Con't)

0	XXX*	9A*	P

Port Position

(**Blank**) Sensor on switch side

(**P3**) Sensor on opposite side

Clamp Arm Opening Angle

(**0**) 135°

(**0**) 120°

(**2**) 105°

(**3**) 90°

(**4**) 75°

(**5**) 60°

(**6**) 45°

(**7**) 30°

Arm Style*

82G8x-4

(See page 73)

(*) Duplicate Arm Style & Mount Position for RH and LH Arms

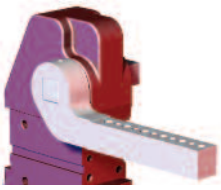
82M-xDxx-xxx-

(xxx xxx) - (xxx xxx)

RH Arm LH Arm

Arm Mount Position*

(**9A**) 90° Standard Angle



(**9B**) 90° Inverted Angle

(**18A**) 90° Standard Angle

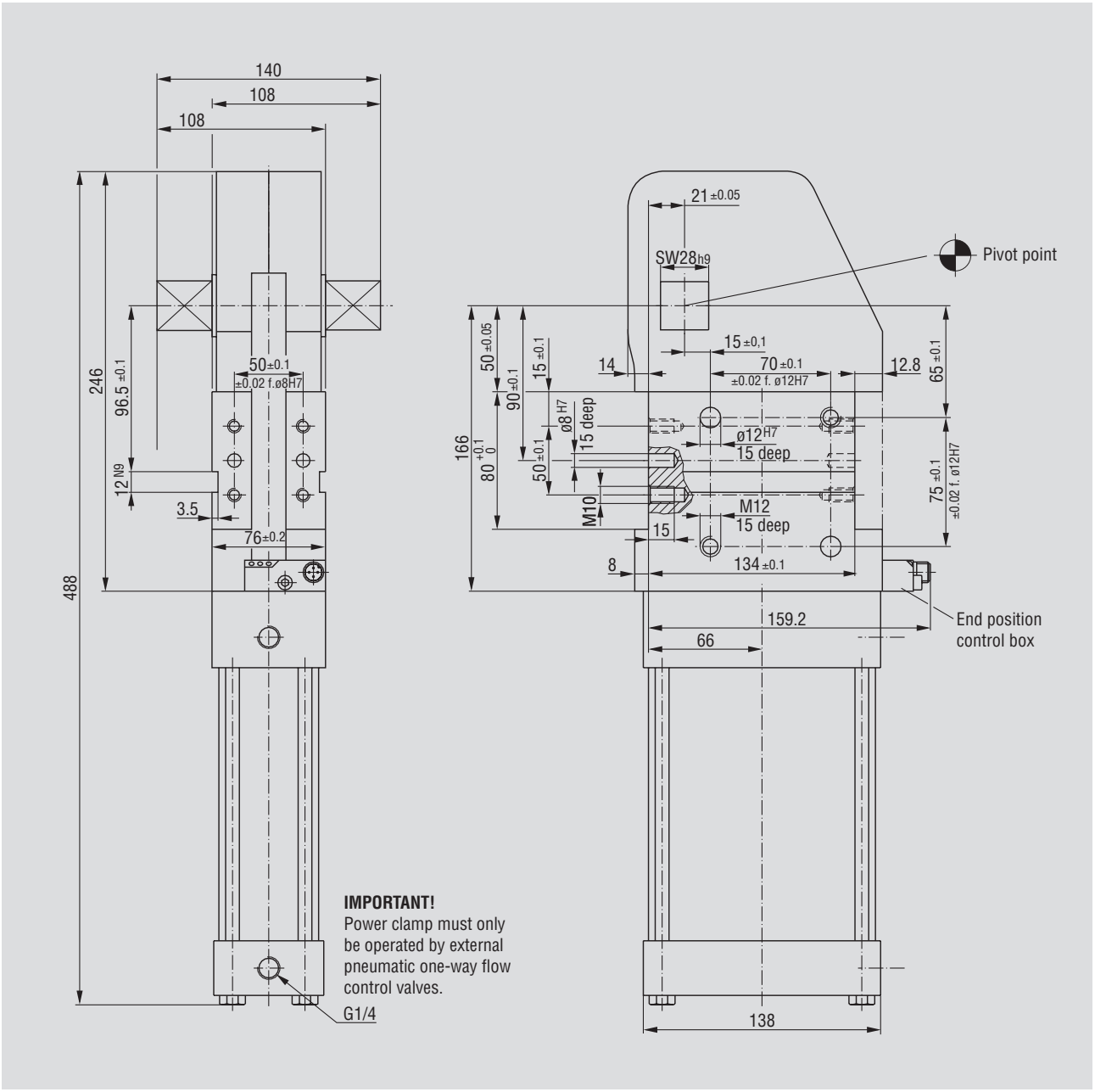
(**18B**) 90° Inverted Angle

(**27A**) 90° Standard Angle

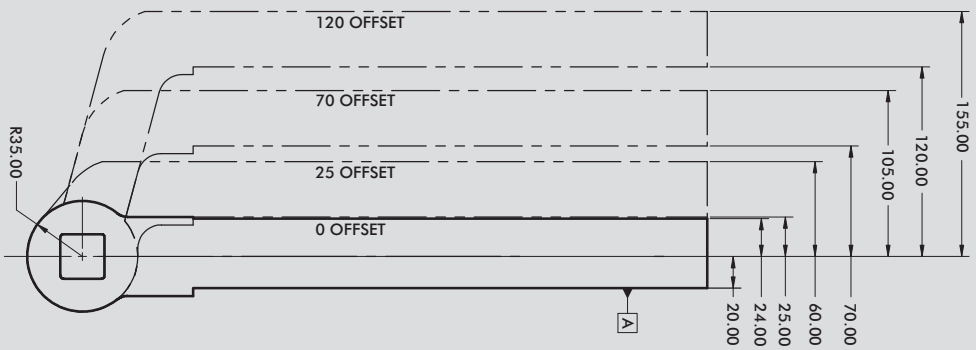
(**27B**) 90° Inverted Angle

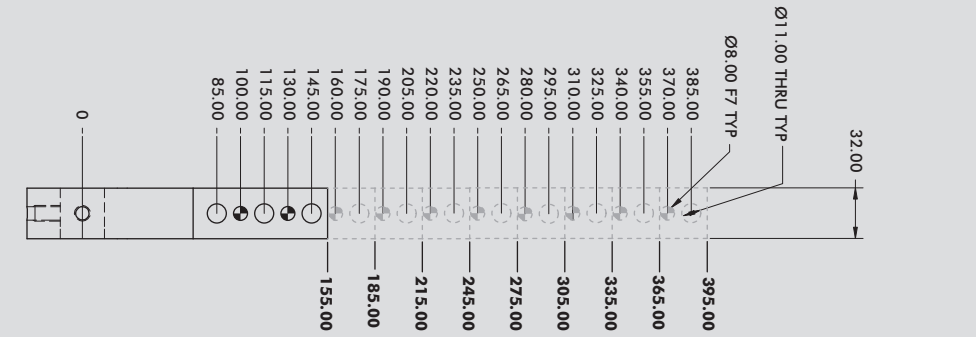
Series 82G80-4

82G80-4.....



82G80 Standard Arms





(•) STANDARD ARM OFFERING

OFFSET	ARM STYLE	PART NUMBER
120	170	8JG-1170-1
70	•150	8JG-1150-1
25	130	8JG-1130-1
0	110	8JG-1110-1

OFFSET	ARM STYLE	PART NUMBER
120	171	8JG-1171-1
70	151	8JG-1151-1
25	131	8JG-1131-1
0	111	8JG-1111-1

OFFSET	ARM STYLE	PART NUMBER
120	172	8JG-1172-1
70	152	8JG-1152-1
25	132	8JG-1132-1
0	•112	8JG-1112-1

OFFSET	ARM STYLE	PART NUMBER
120	173	8JG-1173-1
70	153	8JG-1153-1
25	133	8JG-1133-1
0	113	8JG-1113-1

OFFSET	ARM STYLE	PART NUMBER
120	174	8JG-1174-1
70	154	8JG-1154-1
25	•134	8JG-1134-1
0	114	8JG-1114-1

OFFSET	ARM STYLE	PART NUMBER
120	175	8JG-1175-1
70	•155	8JG-1155-1
25	135	8JG-1135-1
0	115	8JG-1115-1

OFFSET	ARM STYLE	PART NUMBER
120	176	8JG-1176-1
70	156	8JG-1156-1
25	136	8JG-1136-1
0	116	8JG-1116-1

OFFSET	ARM STYLE	PART NUMBER
120	177	8JG-1177-1
70	157	8JG-1157-1
25	137	8JG-1137-1
0	117	8JG-1117-1

OFFSET	ARM STYLE	PART NUMBER
120	178	8JG-1178-1
70	•158	8JG-1158-1
25	138	8JG-1138-1
0	•118	8JG-1118-1

Note:

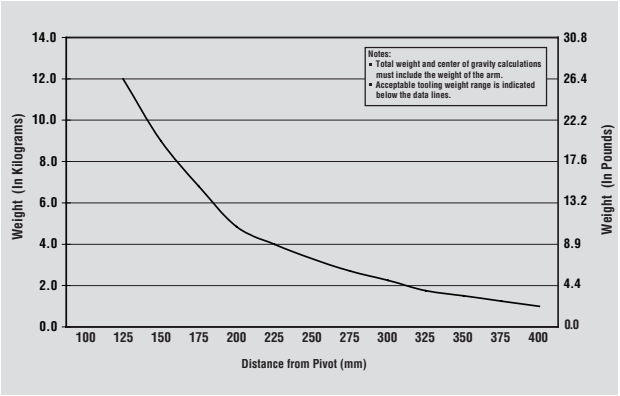
Any NAAMS style arm is available as a custom item. Please contact DE-STA-CO for lead time and pricing.

Arm Style (Standard and Non-Standard)	Arm Position and Orientation					
	9A	9B	18A	18B	27A	27B
100 - 118	135°	135°	105°	105°	N/A	N/A
120 - 138	135°	N/A	60°	120°	N/A	30°
140 - 158	120°	N/A	30°	135°	N/A	45°
160 - 178	105°	N/A	N/A	135°	N/A	75°

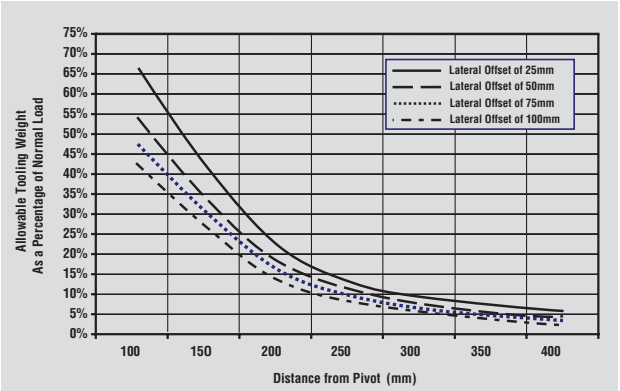
Arm Opening	135°	120°	105°	90°	75°	60°	45°	30°
Cylinder Stroke	128.0	119.0	107.0	94.0	81.5	69.6	58.3	46.8
Stroke Limiter Part #	Not Req'd	8CE-1002-3	8CE-1000-3	8CE-1004-3	8CE-1008-3	8CE-1012-3	8CE-1016-3	8CE-1020-3

Series 82G80-4

82G80 Maximum Tooling Weight (distance from pivot)



82G80 Allowable Tooling Weight (for Offset Loads)



Notes:

- Total weight and center of gravity calculations must include the weight of the arm.
- Acceptacle tooling weight range is indicated below the data lines

Conversions:

Weight	Pressure
kg x 2.2 = lb.	Bar x 14.5 = psi
lb x .45 - kg	psi x .069 = Bar
Distance	**Force**
in x 25.4 = mm	ft/lb. x 1.356 = Nm
mm x .03937 = in	Nm x 0.738 = ft/lb.

Calculation of Maximum Tooling Weight for Offset Loads

To determine the allowable maximum tooling weight for an 82G80 power clamp with a distance of 125mm from the pivot point and a lateral offset of 25mm, use the following steps:

Step 1: Determine maximum tooling weight for the clamp. At 125mm from the pivot, the maximum load is 11.8Kg

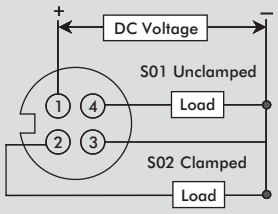
Step 2 The Lateral offset will reduce the maximum load. Use the chart above to determine the allowable percentage of maximum load. In this example, a lateral offset of 25mm that is 125mm from the pivot yields a percentage of approximately 55%.

The maximum allowable tooling can now be determined to be 11.8 Kg x 55% = 6.5 Kg

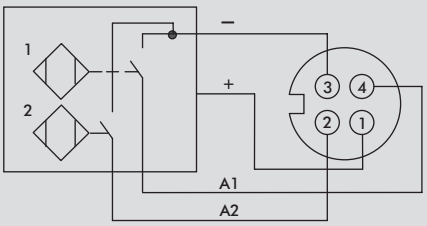
Formula to Caculate Exerting Force of the Arm:

Maximum Clamp Exerting Force (lb) = 32.9 x Line Pressure (PSI) / Distance from clamp arm pivot point to clamping point (In)

PNP Pin Configuration



NPN Pin Configuration



Wiring diagram of electrical sensing system

Sensing system immune to interference from d.c. arc welding and a.c. arc welding

Sensor Options:

- **C9** 10...30 VDC 150mA, PNP, 4-Pin, M12x1 (Turck)

Contact DE-STA-CO for more sensor options

A DOVER COMPANY

PRECISELY POSITIONING OUR CUSTOMERS FOR PRODUCTIVITY.

Workholding

- Widest variety of workholding products
- High durability and reliability
- Flexible solutions for all applications
- Custom products for unique requirements

Automation

- Broad range of engineered automation products
- Complementary products for modular integration
- Unmatched accuracy, reliability and performance
- Unparalleled global sales, service and engineering support

DE-STA-CO GLOBAL LOCATIONS

NORTH AMERICA

DE-STA-CO Headquarters
Auburn Hills, Michigan
Tel: 1.248.836.6700
Marketing: marketing@destaco.com

Auburn Hills, Michigan
Tel: 1.888.DESTACO
Customer Service: cs-workholding@destaco.com

Wheeling, Illinois
Tel: 1.800.645.5207
Customer Service: camco@destaco.com

Monroe, Connecticut
Tel: 1.888.DESTACO
Customer Service: cs-automation@destaco.com

Charlevoix, Michigan
Tel: 1.888.DESTACO
Customer Service: cs-automotive@destaco.com

Red Wing, MN (Central Research Laboratories)
Tel: 651.385.2142
Customer Service: sales@centres.com

SOUTH AMERICA

Brazil
Tel: 0800-124070
Customer Service: samerica@destaco.com

ASIA

Thailand
Tel: +66-2-326-0812
Customer Service: info@destaco.com

China
Tel: +86-21-6081-2888
Customer Service: china@destaco.com

India
Tel: +91-80-41123421-426
Customer Service: india@destaco.com

EUROPE

Germany
Tel: +49-6171-705-0
Customer Service: europe@destaco.com

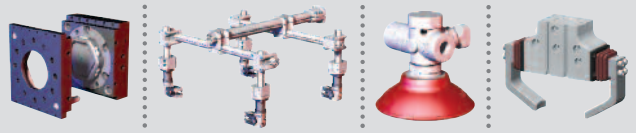
France
Tel: +33-1-3996-5000
Customer Service: france@destaco.com

UK
Tel: +44-1902-797980
Customer Service: uk@destaco.com

Spain
Tel: +34-936361680
Customer Service: spain@destaco.com

Netherlands
Tel: +31-297285332
Customer Service: benelux@destaco.com

A DOVER COMPANY



Precisely positioning our customers for productivity.

1025 Doris Road
Auburn Hills, MI 48326
Fax: (248) 836-6740
Technical Support E-mail:
tech-automotive@destaco.com
www.destaco.com

DSC_LMDG-C_0609_0.0K