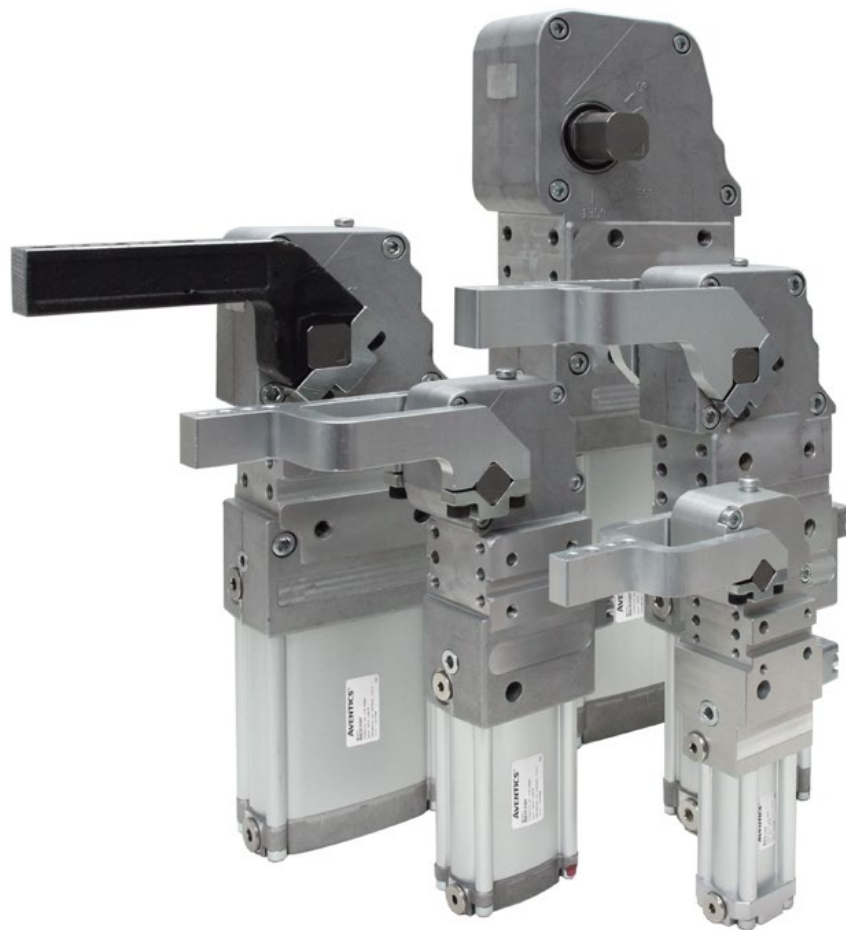


Series 412 Pneumatic Power Clamps



AVENTICS™ Series 412
Pneumatic Power Clamps



Power Clamps

Pneumatic

NAAMS Mount Power Clamp	2-14
International Mount Power Clamp	15-40
Mounting and Accessories	41-42



Features

- Conforms to the NAAMS (North American Automotive Metric Standard)
- Fully adjustable opening angle
- Opening angle can be set with or without air pressure
- Unique linkage design ensures positional repeatability
- Linear and rotary motion guided by roller bearings
- Remains locked in closed position even when air pressure is removed
- Pneumatic ports on both sides of the actuator
- Manual release button to open mechanism when air pressure is removed

General Specifications

Weight:

50 mm Bore Clamp: 2.7 kg (5.95 lbs)
 63 mm Bore Clamp: 3.5 kg (7.72 lbs)
 80 mm Bore Clamp: 8.75 kg (19.29 lbs)

Operating Pressure:

Minimum: 2 Bar (30 PSIG)
 Maximum: 8 Bar (115 PSIG)

Operating Temperature: 0° to 50°C (32° - 122°F)

Class Protection: IP68

Opening Angles:

Fully adjustable from 0° to 135°

Holding Capacity:

50 mm Bore Clamp: 800 Nm (590.04 lb-ft)
 63 mm Bore Clamp: 1500 Nm (1106.34 lb-ft)
 80 mm Bore Clamp: 2500 Nm (1843.90 lb-ft)

How to Order

NAAMS Power Clamp

8 412 A N P 5 0 0 0 0 0 N E

Port Type

- 8 = NPT
- G = G Thread

Product Series

412 = Power Clamp

Revision

A = Initial Release

Product Type

N = NAAMS Mount

Operation

- P = Pneumatic
- Q = Pneumatic with manual operation
- N = Output Shaft for manual operation- no lever and no handle included

Bore Size

- 5 = 50 mm
- 6 = 63 mm
- 8 = 80 mm¹

Sensing Style

- 0 = No sensor
- E = Electronic 24 VDC sensor with M12 swivel connector-PNP
- A = Electronic 24 VDC sensor with M12 swivel connector-NPN
- C = Electronic 24 VDC sensor with M8 swivel connector-PNP

Output Shaft

- N = Dual Shaft
- L = Left side only
- R = Right side only

Arm Material

0 = No arm

Arm Mount Position

0 = No arm

Clamp Arm Type

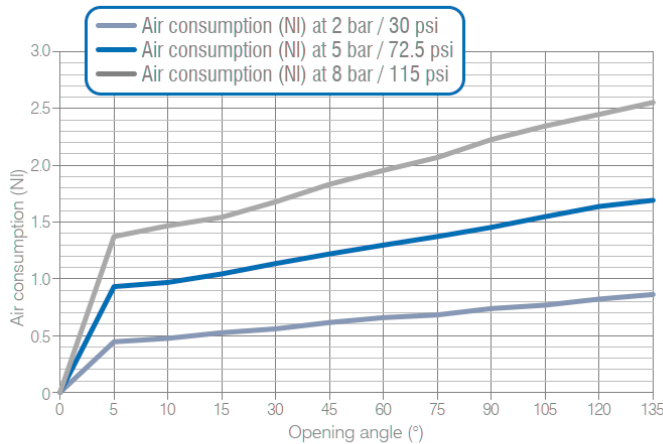
0 = No arm

¹ Pneumatic Operation Only

50 mm Bore Size

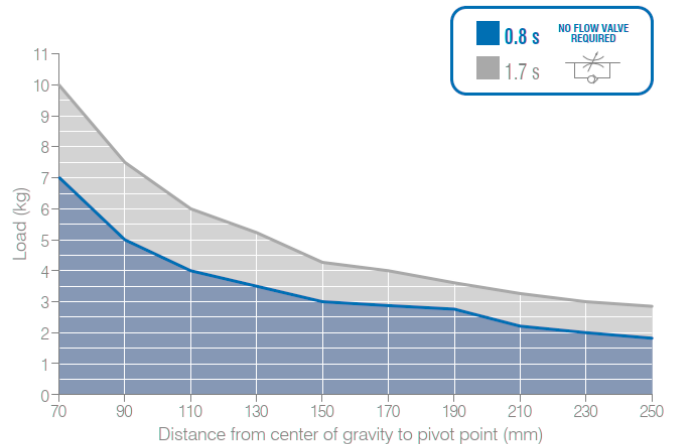
• **Air consumption**

Air consumption for complete cycle (opening and closing)



• **Tooling weight chart**

5 bar operating pressure – 135° opening angle



• **Clamping moment (at 5 bar / 72.5 psi)**

185 N m / 136.44 lb-ft

• **Holding moment**

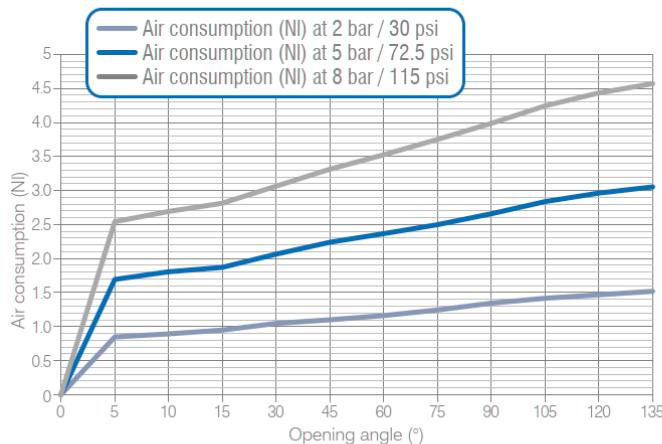
800 N m / 590.04 lb-ft

The above data are meant for correct working conditions of the clamp with the same performance level during its life time. For applications which exceed the above data, please contact our sales representatives.

63 mm Bore Size

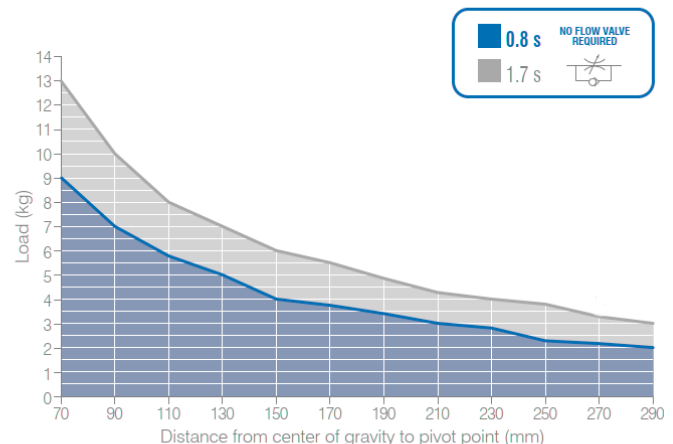
• **Air consumption**

Air consumption for complete cycle (opening and closing)



• **Tooling weight chart**

5 bar operating pressure – 135° opening angle



• **Clamping moment (at 5 bar / 72.5 psi)**

390 N m / 287.64 lb-ft

• **Holding moment**

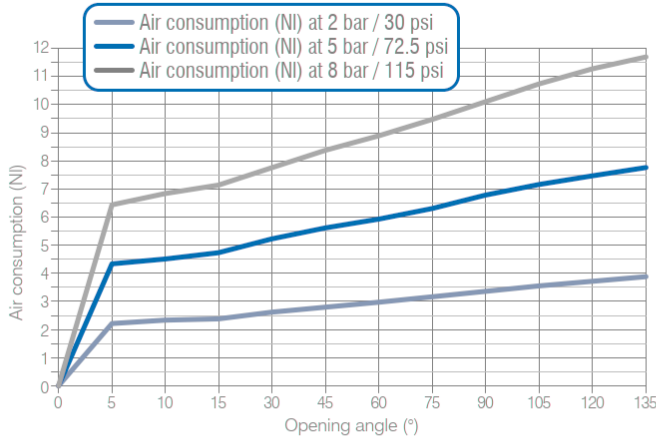
1,500 N m / 1,106.34 lb-ft

The above data are meant for correct working conditions of the clamp with the same performance level during its life time. For applications which exceed the above data, please contact our sales representatives.

80 mm Bore Size

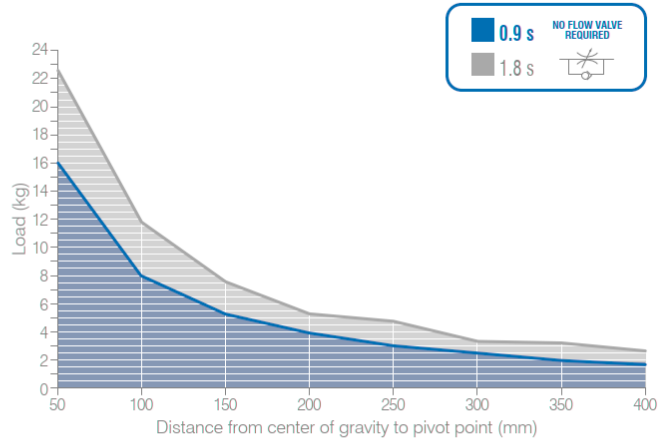
• **Air consumption**

Air consumption for complete cycle (opening and closing)



• **Tooling weight chart**

5 bar operating pressure – 135° opening angle



• **Clamping moment (at 5 bar / 72.5 psi)**

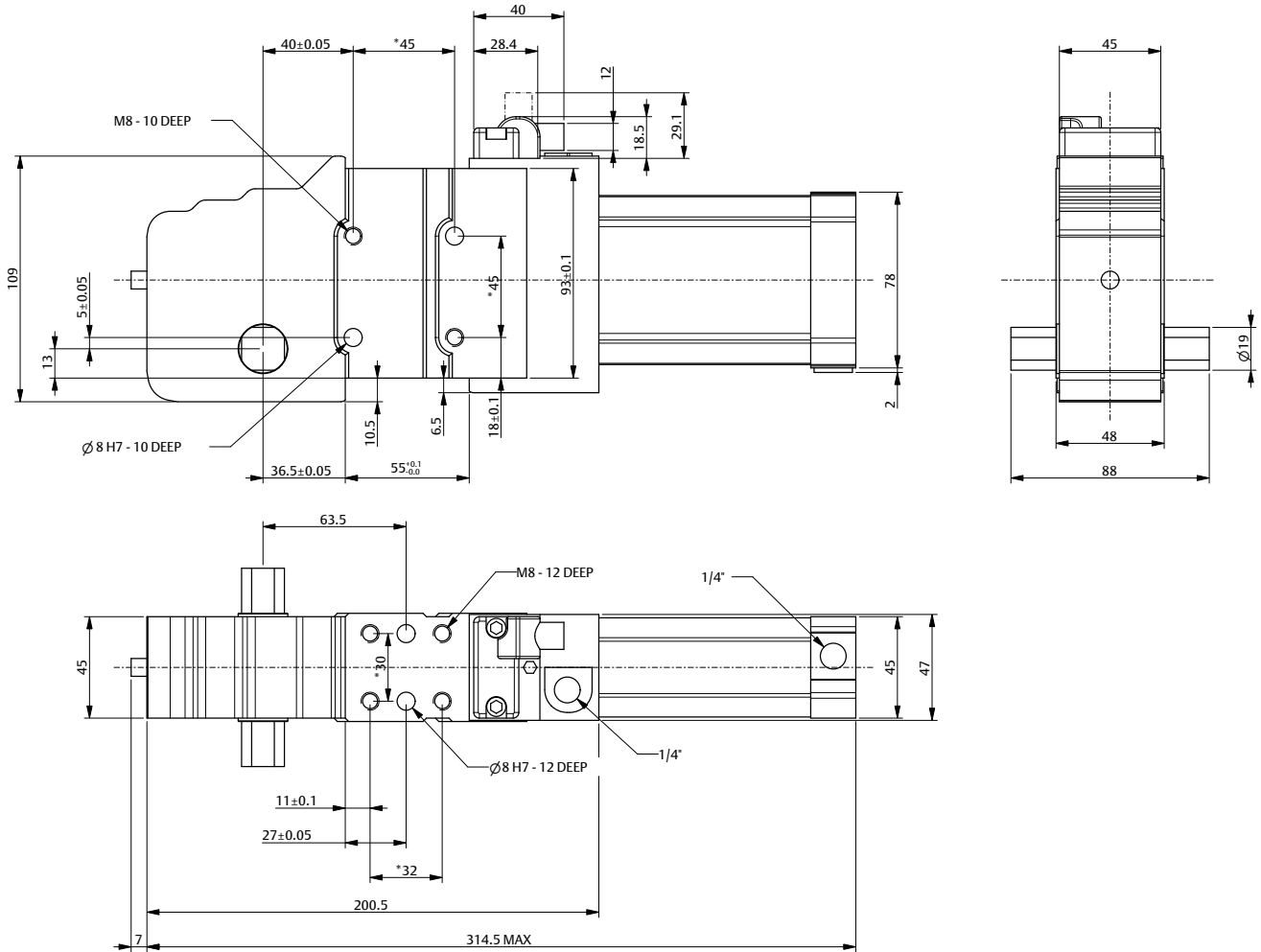
850 N m / 626.92 lb-ft

• **Holding moment**

2,500 N m / 1,843.90 lb-ft

The above data are meant for correct working conditions of the clamp with the same performance level during its life time. For applications which exceed the above data, please contact our sales representatives.

Dimensional Drawing - NAAMS Std - 50 mm Bore Size



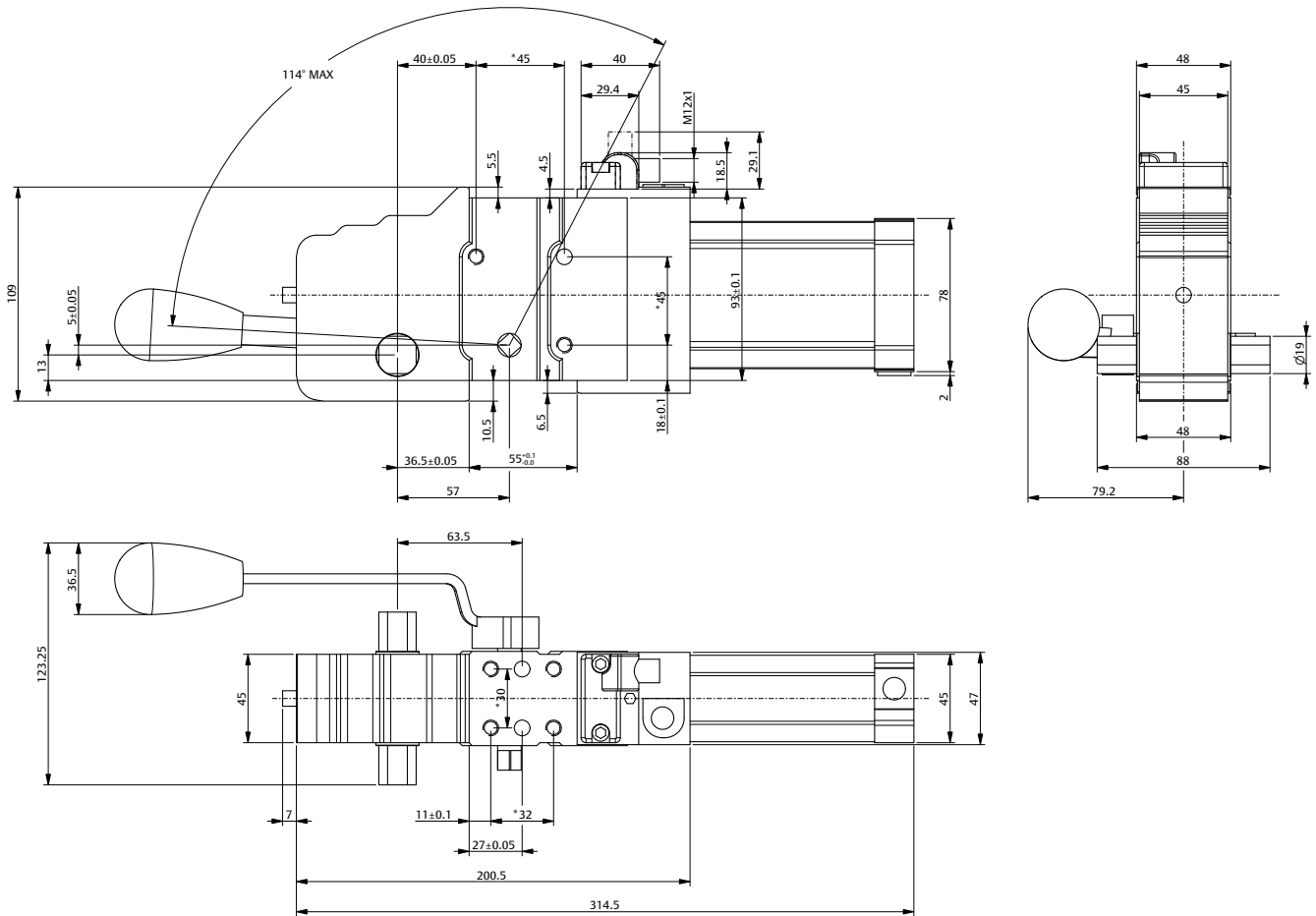
Weight: 2.7 kg

Dimensional Tolerances For Dowel Holes: ±0.02

Dimensional Tolerances For Threaded Hole: ±0.1

Dimensions: mm

Dimensional Drawing - NAAMS Std - 50 mm Bore Size with Manual Operation



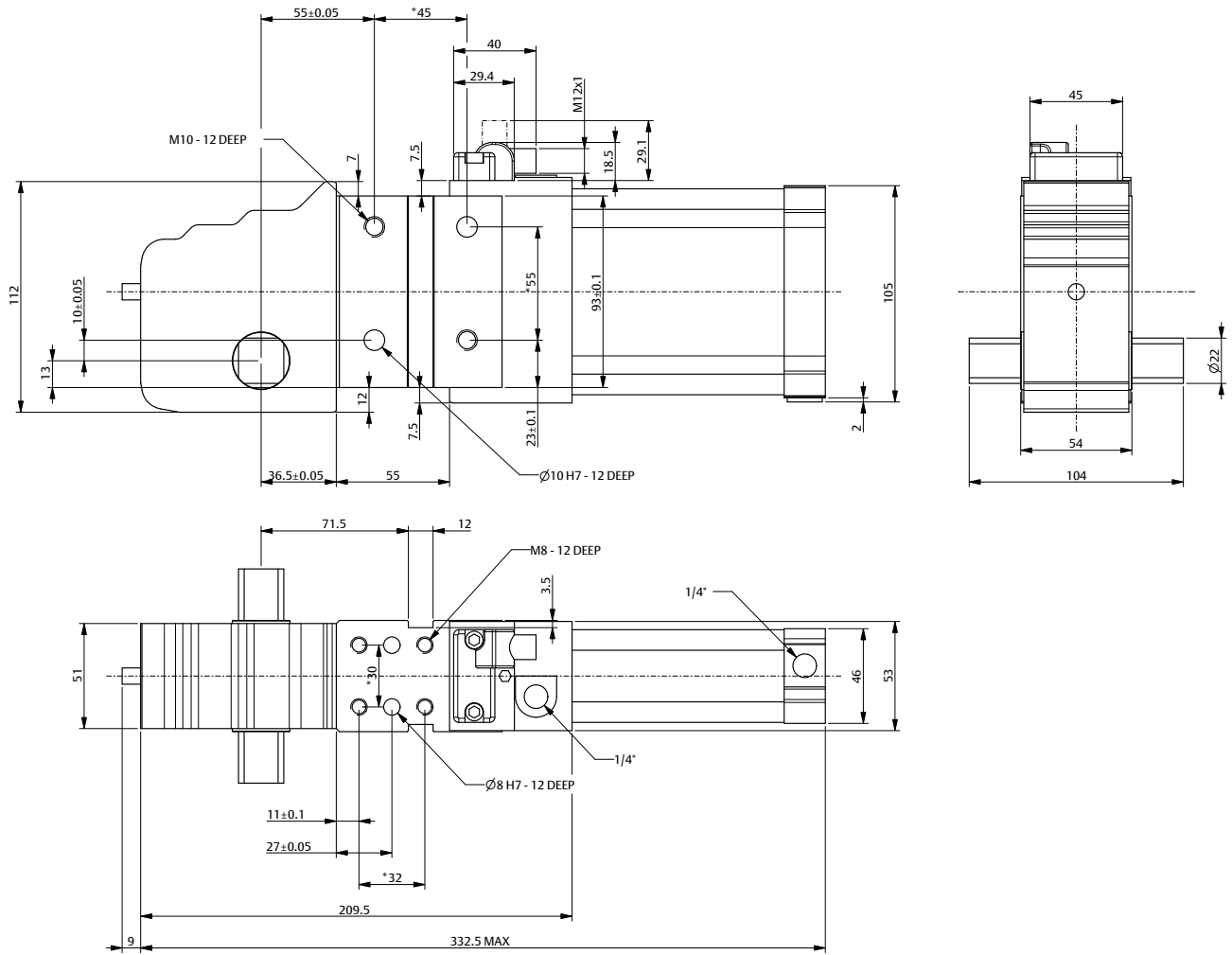
Weight: 3.17 kg

Dimensional Tolerances For Dowel Holes: ± 0.02

Dimensional Tolerances For Threaded Hole: ± 0.1

Dimensions: mm

Dimensional Drawing - NAAMS Std - 63 mm Bore Size



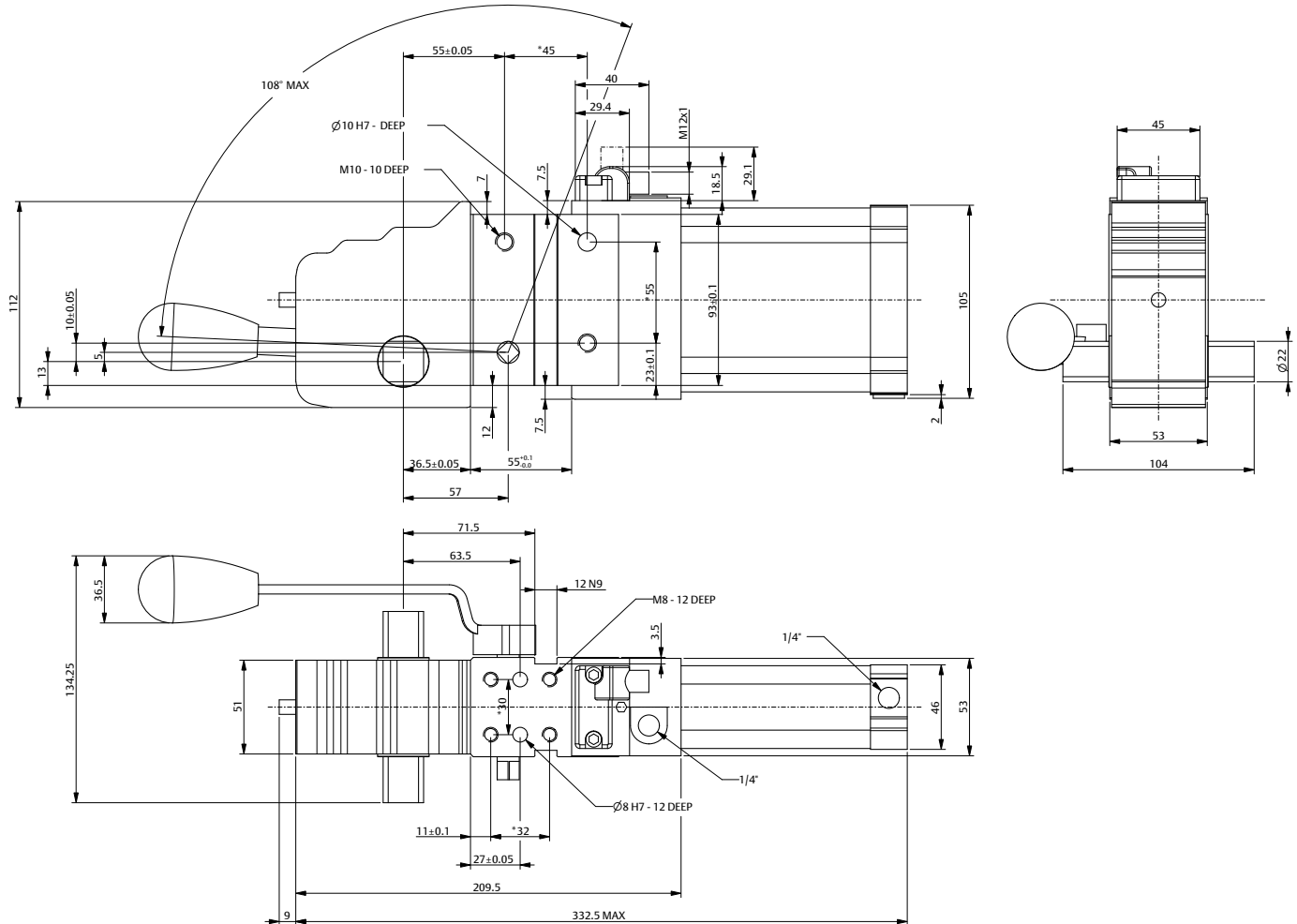
Weight: 3.50 kg

Dimensional Tolerances For Dowel Holes: ± 0.02

Dimensional Tolerances For Threaded Hole: ± 0.1

Dimensions: mm

Dimensional Drawing - NAAMS Std - 63 mm Bore Size with Manual Operation



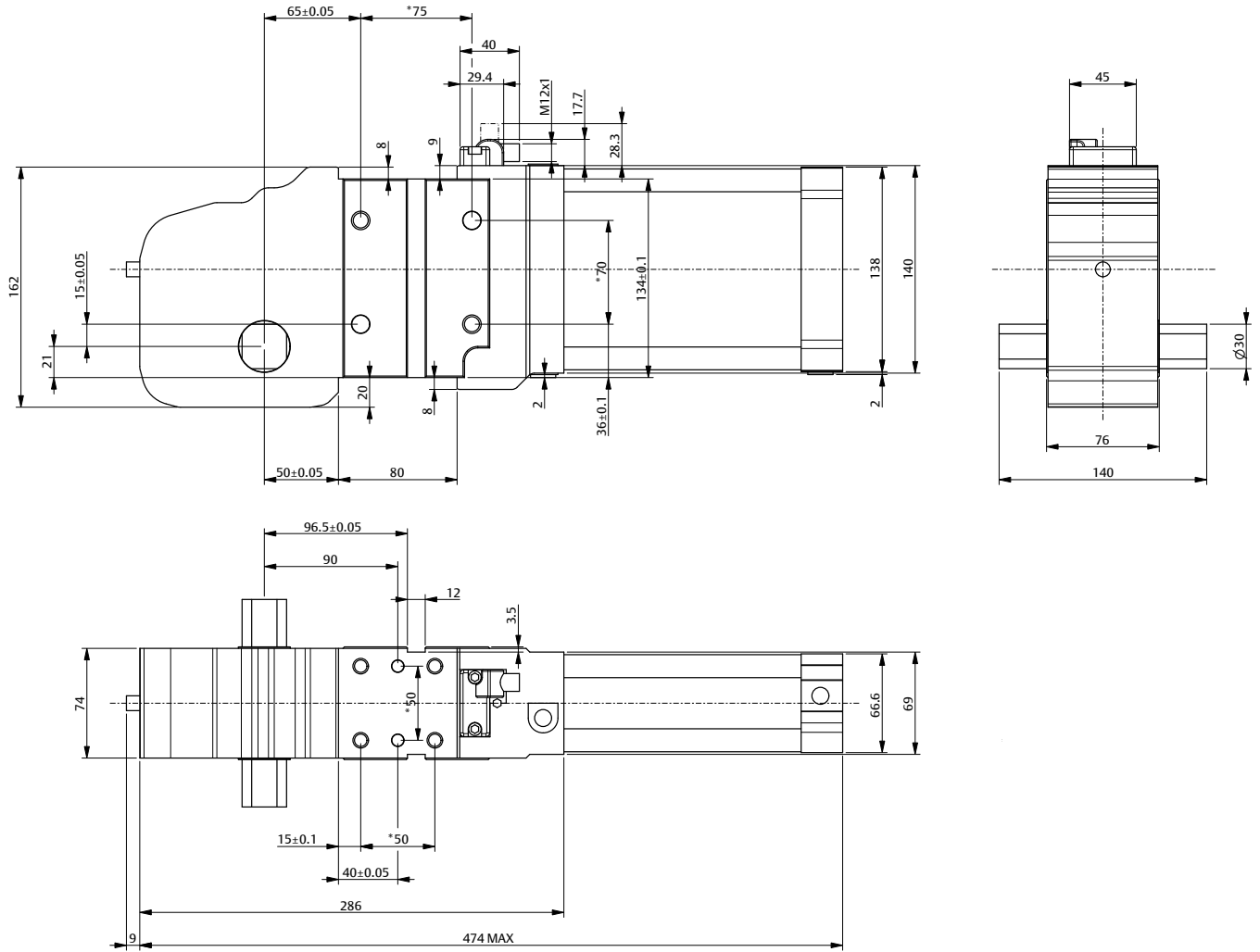
Weight: 4.00 kg

Dimensional Tolerances For Dowel Holes: ±0.02

Dimensional Tolerances For Threaded Hole: ±0.1

Dimensions: mm

Dimensional Drawing - NAAMS Std - 80 mm Bore Size



Weight: 8.75 kg

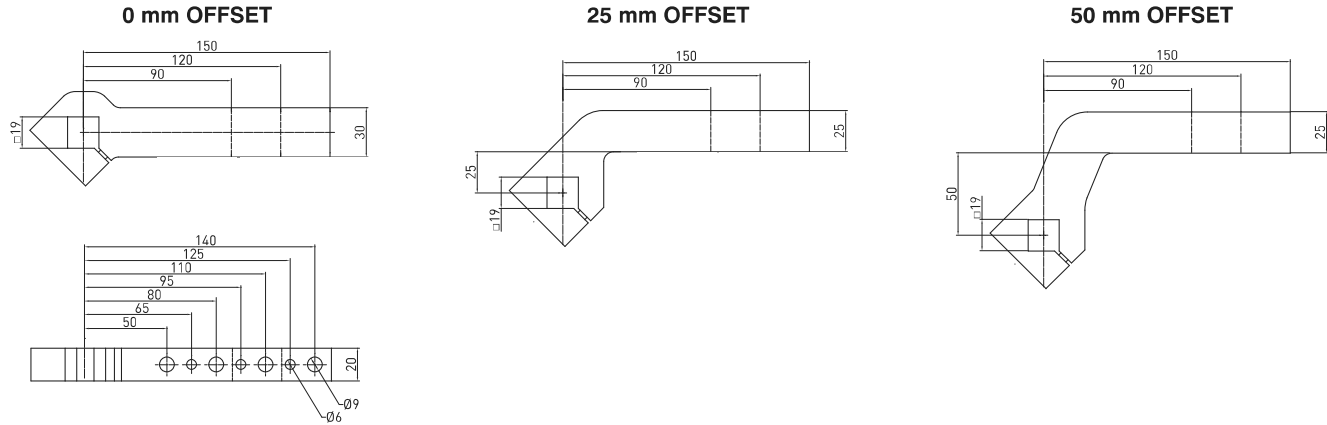
Dimensional Tolerances For Dowel Holes: ±0.02

Dimensional Tolerances For Threaded Hole: ±0.1

Dimensions: mm

Dimensional Drawing - NAAMS Arm - 50 mm Bore Clamps - 19 mm Shaft - 0, 25 and 50 mm Offset

Material: Steel



19 mm shaft – 0 mm offset

Part Number	NAAMS Code	Material	Length (mm)	Weight (kg)	Max opening angle
551816-004	ACA236M	Steel	90	0.4	135°
551816-003	ACA237M	Steel	120	0.49	135°
551816-002	ACA238M	Steel	150	0.58	135°

Screws: M6x25 Tightening torque: 10 N m / 7.37 lb-ft

19 mm shaft – 25 mm offset

Part Number	NAAMS Code	Material	Length (mm)	Weight (kg)	Max opening angle
551817-004	ACA246M	Steel	90	0.44	135°
551817-003	ACA247M	Steel	120	0.52	135°
551817-002	ACA248M	Steel	150	0.6	135°

Screws: M6x25 Tightening torque: 10 N m / 7.37 lb-ft

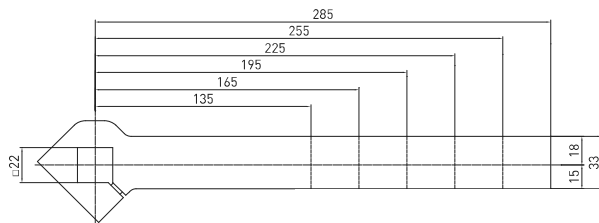
19 mm shaft – 50 mm offset

Part Number	NAAMS Code	Material	Length (mm)	Weight (kg)	Max opening angle
551818-004	ACA256M	Steel	90	0.52	135°
551818-003	ACA257M	Steel	120	0.6	135°
551818-002	ACA258M	Steel	150	0.68	135°

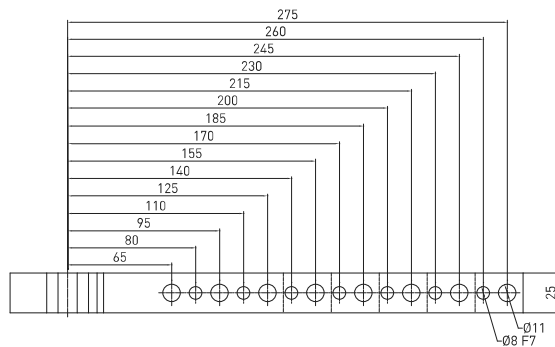
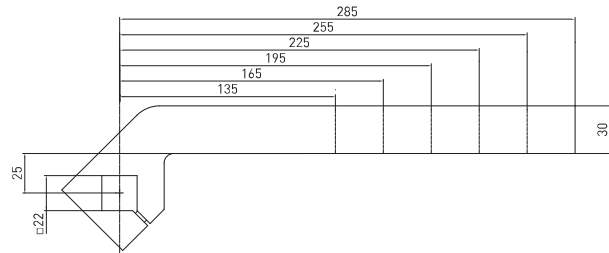
Screws: M6x25 Tightening torque: 10 N m / 7.37 lb-ft

Dimensional Drawing -NAAMS Arm - 63 mm Bore Clamps - 22 mm Shaft - 0 and 25 mm Offset

0 mm OFFSET



25 mm OFFSET



22 mm shaft – 0 mm offset

Part Number	NAAMS Code	Material	Length (mm)	Weight (kg)	Max opening angle
551819-007	ACA007M	Steel	135	0.72	135°
551819-006	ACA008M	Steel	165	0.83	135°
551819-005	ACA009M	Steel	195	0.94	135°
551819-004	ACA010M	Steel	225	1.05	135°
551819-003	ACA011M	Steel	255	1.16	135°
551819-002	ACA012M	Steel	285	1.28	135°

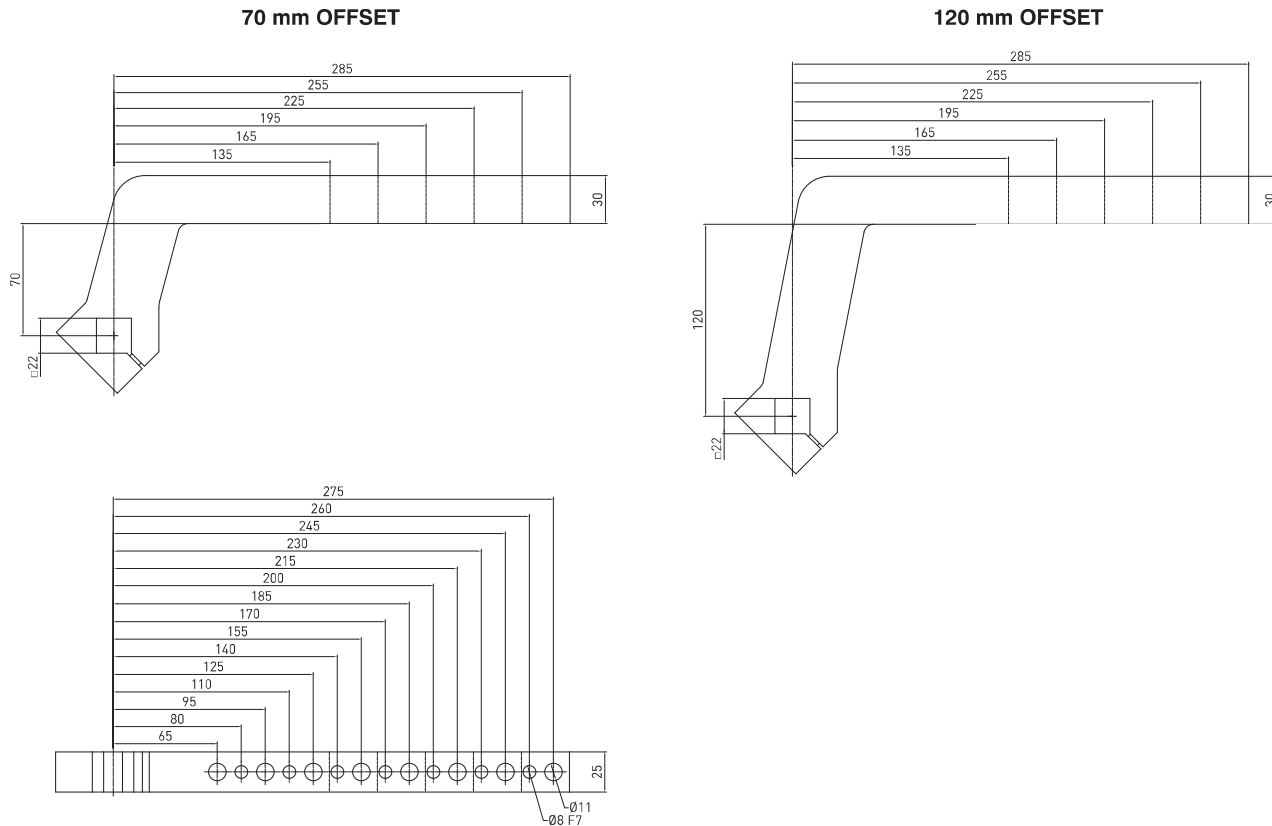
Screws: M8x25 Tightening torque: 25 N m / 18.43 lb-ft

22 mm shaft – 25 mm offset

Part Number	NAAMS Code	Material	Length (mm)	Weight (kg)	Max opening angle
551820-007	ACA019M	Steel	135	0.84	135°
551820-006	ACA020M	Steel	165	0.95	135°
551820-005	ACA021M	Steel	195	1.05	135°
551820-004	ACA022M	Steel	225	1.16	135°
551820-003	ACA023M	Steel	255	1.26	135°
551820-002	ACA024M	Steel	285	1.37	135°

Screws: M8x25 Tightening torque: 25 N m / 18.43 lb-ft

Dimensional Drawing - NAAMS Arm - 63 mm Bore Clamps - 22 mm Shaft - 70 and 120 mm Offset



22 mm shaft – 70 mm offset

Part Number	NAAMS Code	Material	Length (mm)	Weight (kg)	Max opening angle
551821-007	ACA031M	Steel	135	1.05	135°
551821-006	ACA032M	Steel	165	1.16	135°
551821-005	ACA033M	Steel	195	1.27	135°
551821-004	ACA034M	Steel	225	1.38	135°
551821-003	ACA035M	Steel	255	1.49	135°
551821-002	ACA036M	Steel	285	1.6	135°

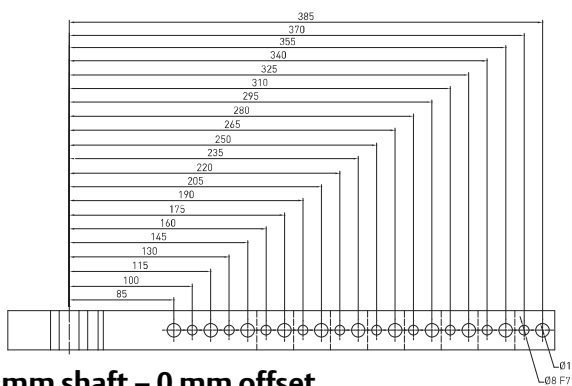
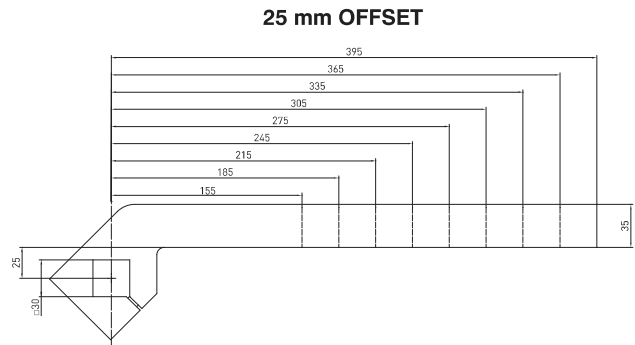
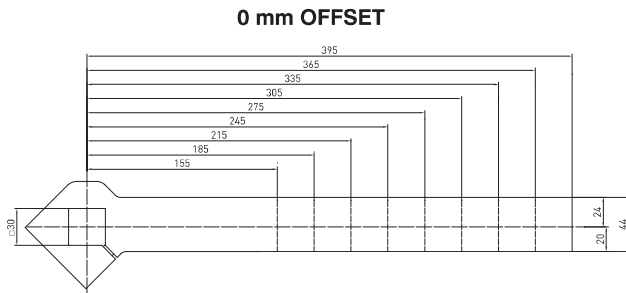
Screws: M8x18 Tightening torque: 25 N m / 18.43 lb-ft

22 mm shaft – 120 mm offset

Part Number	NAAMS Code	Material	Length (mm)	Weight (kg)	Max opening angle
551822-007	ACA043M	Steel	135	1.27	135°
551822-006	ACA044M	Steel	165	1.37	135°
551822-005	ACA045M	Steel	195	1.48	135°
551822-004	ACA046M	Steel	225	1.58	135°
551822-003	ACA047M	Steel	255	1.69	135°
551822-002	ACA048M	Steel	285	1.8	135°

Screws: M8x18 Tightening torque: 25 N m / 18.43 lb-ft

Dimensional Drawing - NAAMS Arm - 80 mm Bore Clamps - 30 mm Shaft - 0 and 25 mm Offset



30 mm shaft – 0 mm offset

Part Number	NAAMS Code	Material	Length (mm)	Weight (kg)	Max opening angle
551823-010	ACA110M	Steel	155	1.41	135°
551823-009	ACA111M	Steel	185	1.58	135°
551823-008	ACA112M	Steel	215	1.76	135°
551823-007	ACA113M	Steel	245	1.93	135°
551823-006	ACA114M	Steel	275	2.1	135°
551823-005	ACA115M	Steel	305	2.27	135°
551823-004	ACA116M	Steel	335	2.45	135°
551823-003	ACA117M	Steel	365	2.62	135°
551823-002	ACA118M	Steel	395	2.8	135°

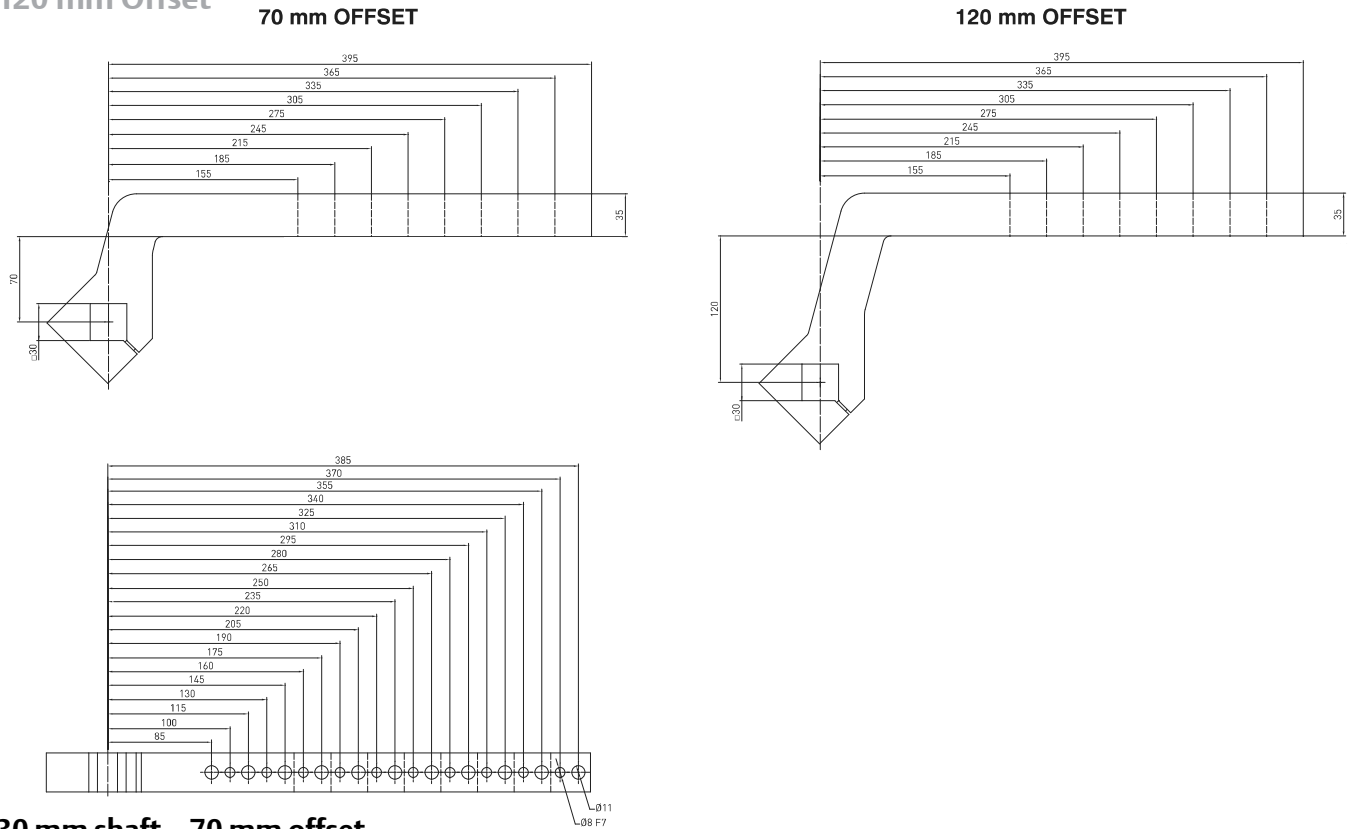
Screws: M10x40 Tightening torque: 35 N m / 25.81 lb-ft

30 mm shaft – 25 mm offset

Part Number	NAAMS Code	Material	Length (mm)	Weight (kg)	Max opening angle
551824-010	ACA130M	Steel	155	1.24	135°
551824-009	ACA131M	Steel	185	1.39	135°
551824-008	ACA132M	Steel	215	1.54	135°
551824-007	ACA133M	Steel	245	1.69	135°
551824-006	ACA134M	Steel	275	1.84	135°
551824-005	ACA135M	Steel	305	2	135°
551824-004	ACA136M	Steel	335	2.14	135°
551824-003	ACA137M	Steel	365	2.29	135°
551824-002	ACA138M	Steel	395	2.45	135°

Screws: M10x40 Tightening torque: 35 N m / 25.81 lb-ft

Dimensional Drawing - NAAMS Arm - 80 mm Bore Clamps - 30 mm Shaft - 70 and 120 mm Offset



30 mm shaft – 70 mm offset

Part Number	NAAMS Code	Material	Length (mm)	Weight (kg)	Max opening angle
551825-010	ACA150M	Steel	155	1.7	135°
551825-009	ACA151M	Steel	185	1.85	135°
551825-008	ACA152M	Steel	215	2	135°
551825-007	ACA153M	Steel	245	2.15	135°
551825-006	ACA154M	Steel	275	2.3	135°
551825-005	ACA155M	Steel	305	2.45	135°
551825-004	ACA156M	Steel	335	2.6	135°
551825-003	ACA157M	Steel	365	2.76	135°
551825-002	ACA158M	Steel	395	2.92	135°

Screws: M10x40 Tightening torque: 35 N m / 25.81 lb-ft

30 mm shaft – 120 mm offset

Part Number	NAAMS Code	Material	Length (mm)	Weight (kg)	Max opening angle
551826-010	ACA170M	Steel	155	1.97	135°
551826-009	ACA171M	Steel	185	2.12	135°
551826-008	ACA172M	Steel	215	2.27	135°
551826-007	ACA173M	Steel	245	2.42	135°
551826-006	ACA174M	Steel	275	2.57	135°
551826-005	ACA175M	Steel	305	2.72	135°
551826-004	ACA176M	Steel	335	2.87	135°
551826-003	ACA177M	Steel	365	3.02	135°
551826-002	ACA178M	Steel	395	3.19	135°

Screws: M10x40 Tightening torque: 35 N m / 25.81 lb-ft



Features

- Conforms to International mounting standard (European standard)
- Fully adjustable opening angle
- Opening angle can be set with or without air pressure
- Unique linkage design ensures positional repeatability
- Linear and rotary motion guided by roller bearings
- Remains locked in closed position even when air pressure is removed
- Pneumatic ports on both sides of the actuator
- Manual release button to open mechanism when air pressure is removed

General Specifications

Weight:

25 mm Bore Clamp: 0.75 kg (1.65 lbs)

32 mm Bore Clamp: 0.987 kg (2.18 lbs)

40 mm Bore Clamp: 1.45 kg (3.2 lbs)

50 mm Bore Clamp: 2.7 kg (5.95 lbs)

63 mm Bore Clamp: 3.5 kg (7.72 lbs)

80 mm Bore Clamp: 8.54 kg (18.83 lbs)

Operating Pressure:

Minimum: 2 Bar (30 PSIG)

Maximum: 8 Bar (115 PSIG)

Operating Temperature: 0° to 50°C (32° to 122°F)

Class Protection: IP68

Opening Angles:

All Clamps: Fully adjustable from 0° to 135°

Holding Capacity:

25 mm Bore Clamp: 75 Nm (55.32 lb·ft)

32 mm Bore Clamp: 250 Nm (184.39 lb·ft)

40 mm Bore Clamp: 380 Nm (280.27 lb·ft)

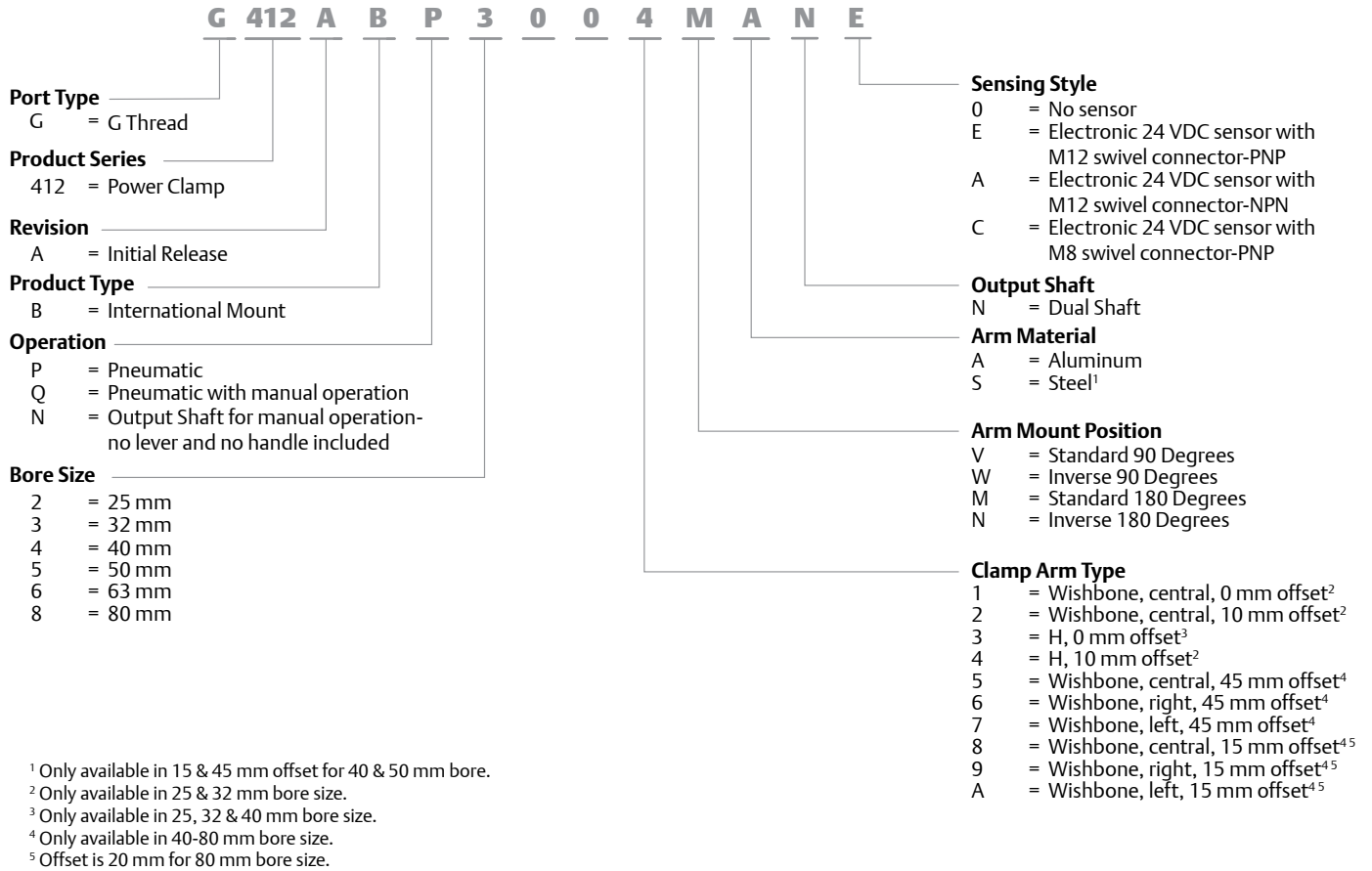
50 mm Bore Clamp: 800 Nm (590.04 lb·ft)

63 mm Bore Clamp: 1500 Nm (1106.34 lb·ft)

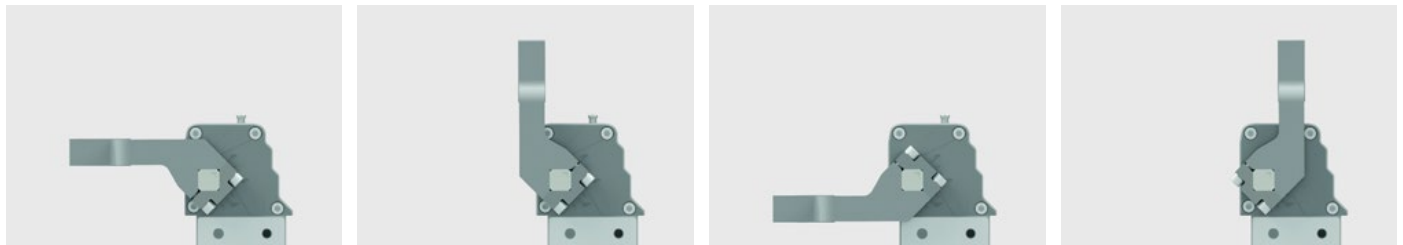
80 mm Bore Clamp: 2500 Nm (1843.90 lb·ft)

How to Order

Pneumatic Power Clamp



Arm Mount Options



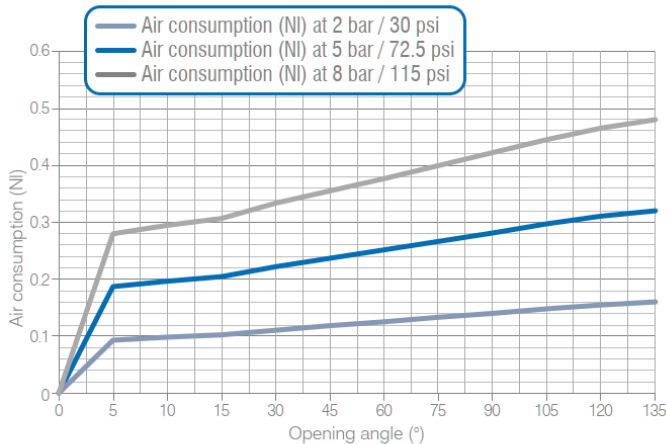
Position 1 - Standard 90° Arm Position 2 - Standard 180° Arm Position 3 - Inverse 90° Arm Position 4 - Inverse 180° Arm

The above diagrams show the closed position. The max opening angle for each arm is indicated in the tables in the Arms section.

25 mm Bore Size

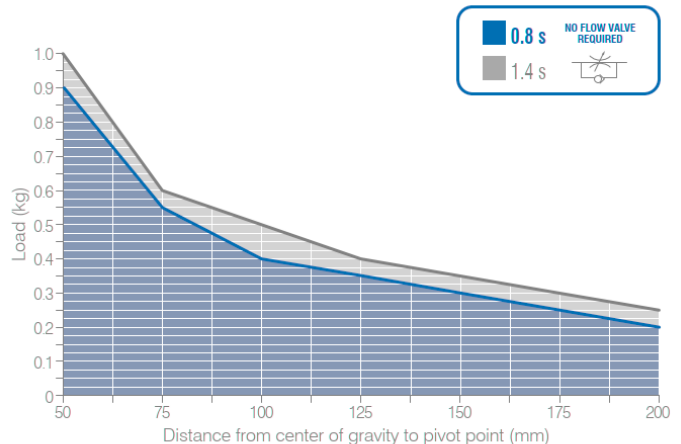
Air consumption

Air consumption for complete cycle (opening and closing)



Tooling weight chart

5 bar operating pressure – 135° opening angle



Clamping moment (at 5 bar / 72.5 psi)

50 N m / 36.87 lb-ft

Holding moment

75 N m / 55.31 lb-ft

Cycle time for max opening angle

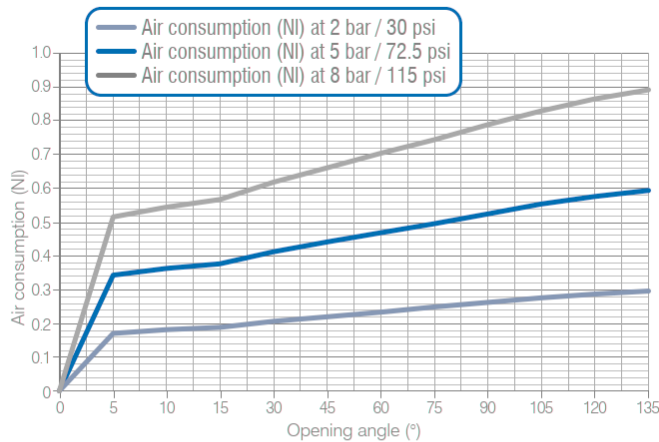
< 0.8 s

The above data are meant for correct working conditions of the clamp with the same performance level during its life time. For applications which exceed the above data, please contact our sales representatives.

32 mm Bore Size

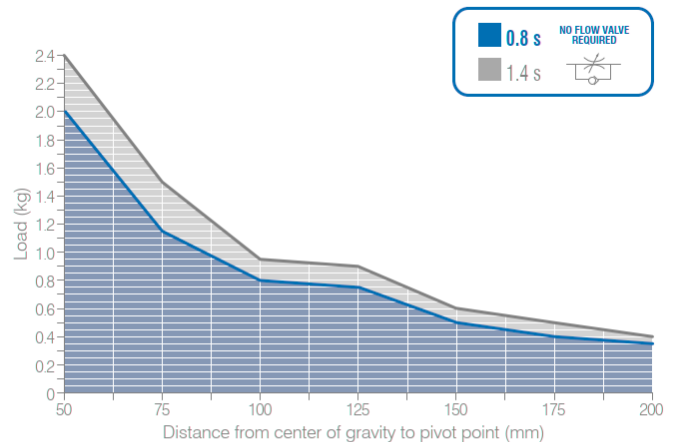
Air consumption

Air consumption for complete cycle (opening and closing)



Tooling weight chart

5 bar operating pressure – 135° opening angle



Clamping moment (at 5 bar / 72.5 psi)

75 N m / 55.31 lb-ft

Holding moment

250 N m / 184.39 lb-ft

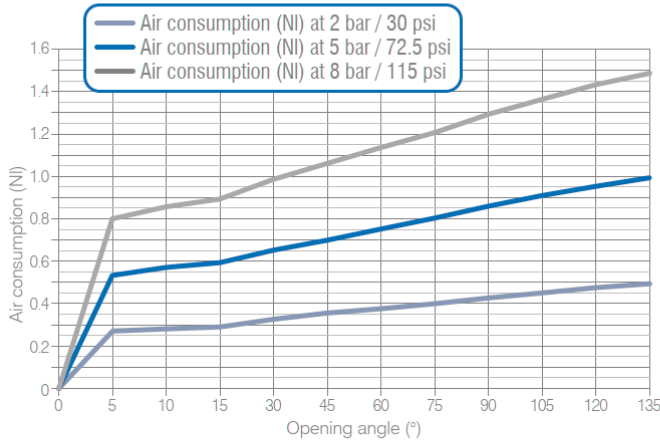
Cycle time for max opening angle

< 0.8 s

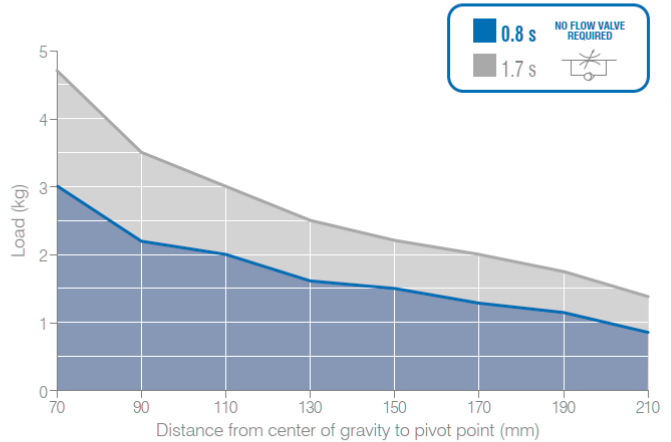
The above data are meant for correct working conditions of the clamp with the same performance level during its life time. For applications which exceed the above data, please contact our sales representatives.

40 mm Bore Size

- **Air consumption**
Air consumption for complete cycle (opening and closing)



- **Tooling weight chart**
5 bar operating pressure – 135° opening angle



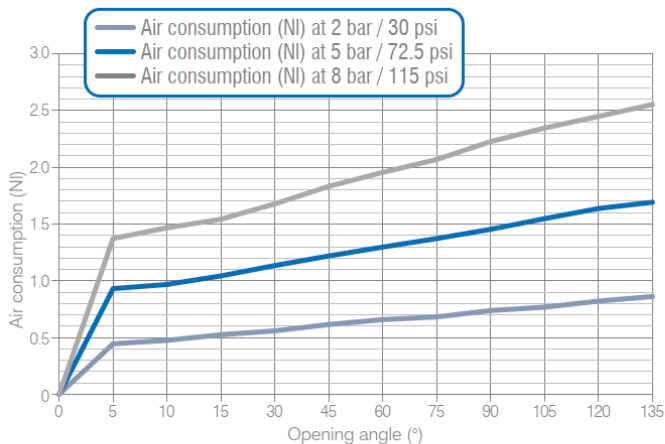
- **Clamping moment (at 5 bar / 72.5 psi)**
130 N m / 95.88 lb-ft

- **Holding moment**
380 N m / 280.27 lb-ft

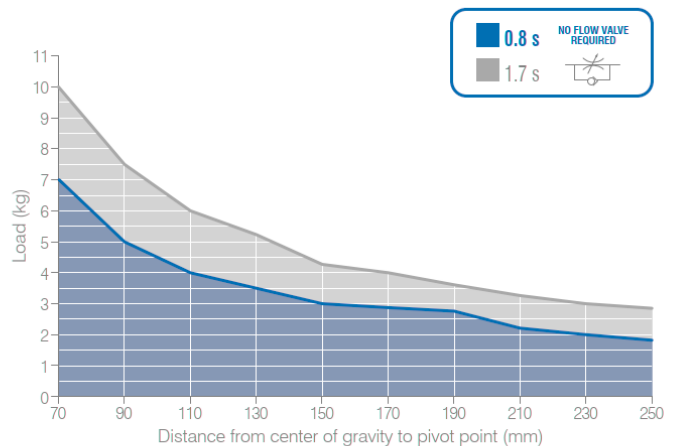
The above data are meant for correct working conditions of the clamp with the same performance level during its life time. For applications which exceed the above data, please contact our sales representatives.

50 mm Bore Size

- **Air consumption**
Air consumption for complete cycle (opening and closing)



- **Tooling weight chart**
5 bar operating pressure – 135° opening angle



- **Clamping moment (at 5 bar / 72.5 psi)**
185 N m / 136.44 lb-ft

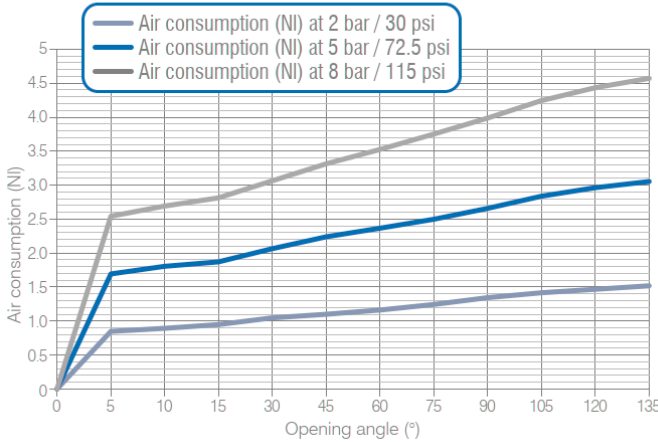
- **Holding moment**
800 N m / 590.04 lb-ft

The above data are meant for correct working conditions of the clamp with the same performance level during its life time. For applications which exceed the above data, please contact our sales representatives.

63 mm Bore Size

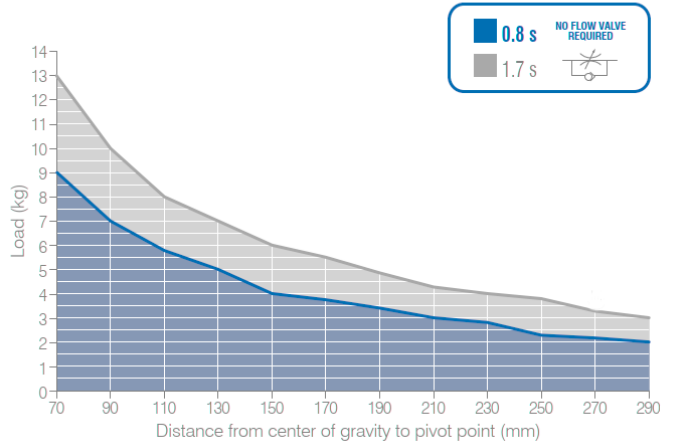
• **Air consumption**

Air consumption for complete cycle (opening and closing)



• **Tooling weight chart**

5 bar operating pressure – 135° opening angle



• **Clamping moment (at 5 bar / 72.5 psi)**

390 N m / 287.64 lb-ft

• **Holding moment**

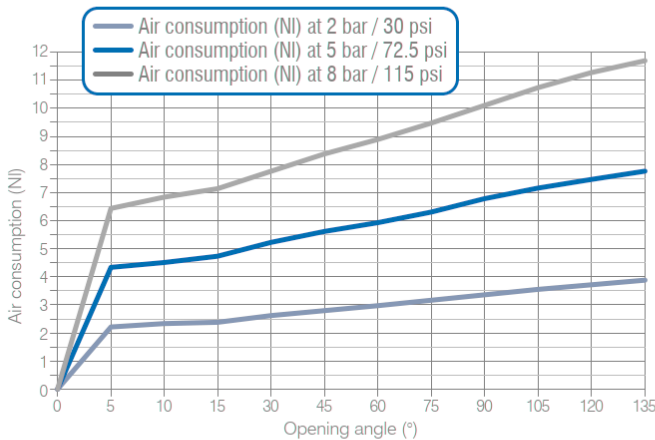
1,500 N m / 1,106.34 lb-ft

The above data are meant for correct working conditions of the clamp with the same performance level during its life time. For applications which exceed the above data, please contact our sales representatives.

80 mm Bore Size

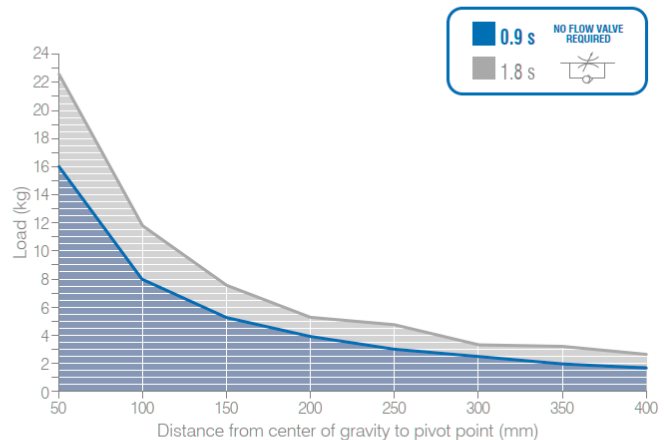
• **Air consumption**

Air consumption for complete cycle (opening and closing)



• **Tooling weight chart**

5 bar operating pressure – 135° opening angle



• **Clamping moment (at 5 bar / 72.5 psi)**

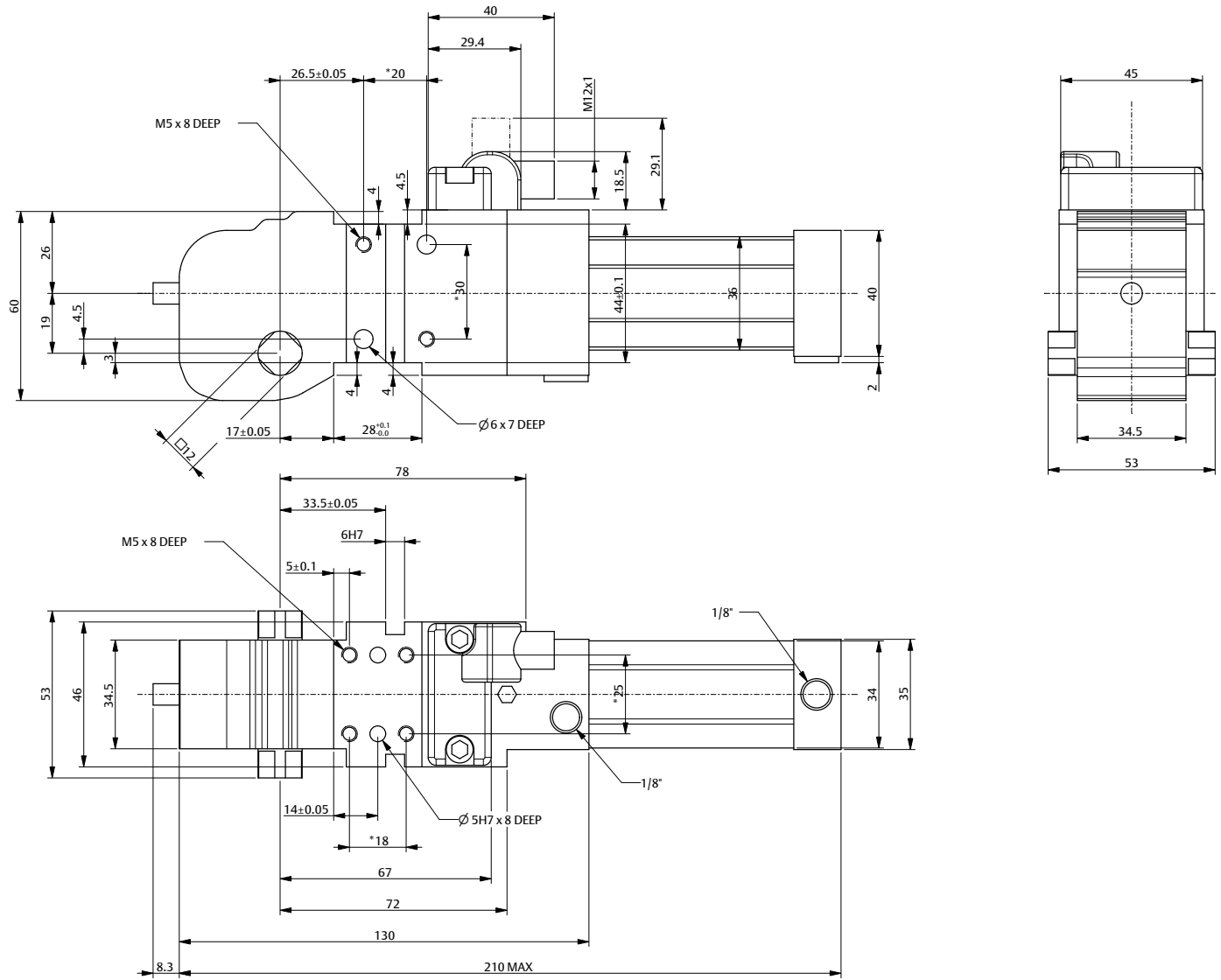
850 N m / 626.92 lb-ft

• **Holding moment**

2,500 N m / 1,843.90 lb-ft

The above data are meant for correct working conditions of the clamp with the same performance level during its life time. For applications which exceed the above data, please contact our sales representatives.

Dimensional Drawing - International Mount Power Clamp - 25 mm Bore Size



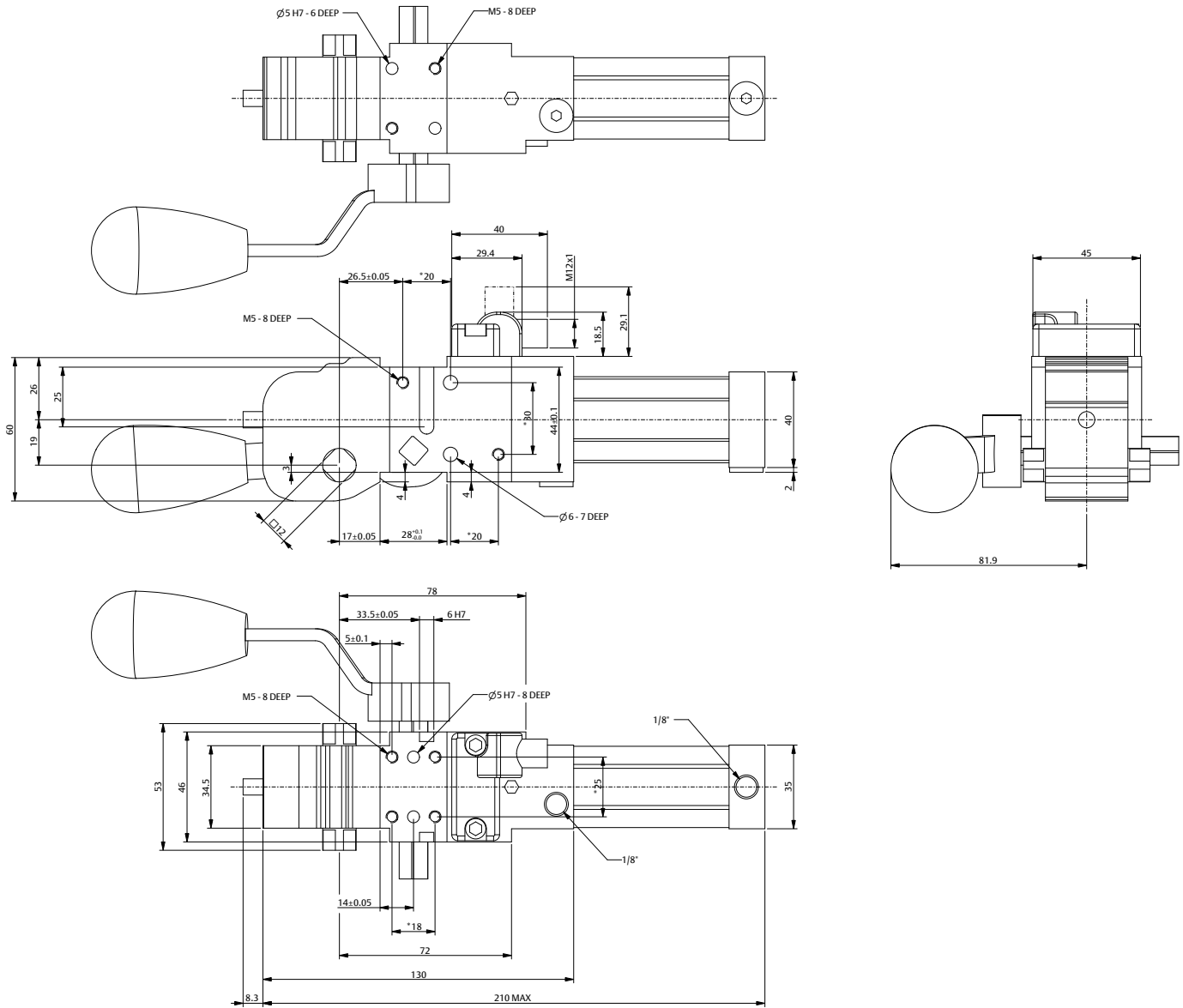
Weight: 0.75 kg

Dimensional Tolerances For Dowel Holes: ±0.02

Dimensional Tolerances For Threaded Hole: ±0.1

Dimensions: mm

Dimensional Drawing - International Mount Power Clamp - 25 mm Bore Size with Manual Operation



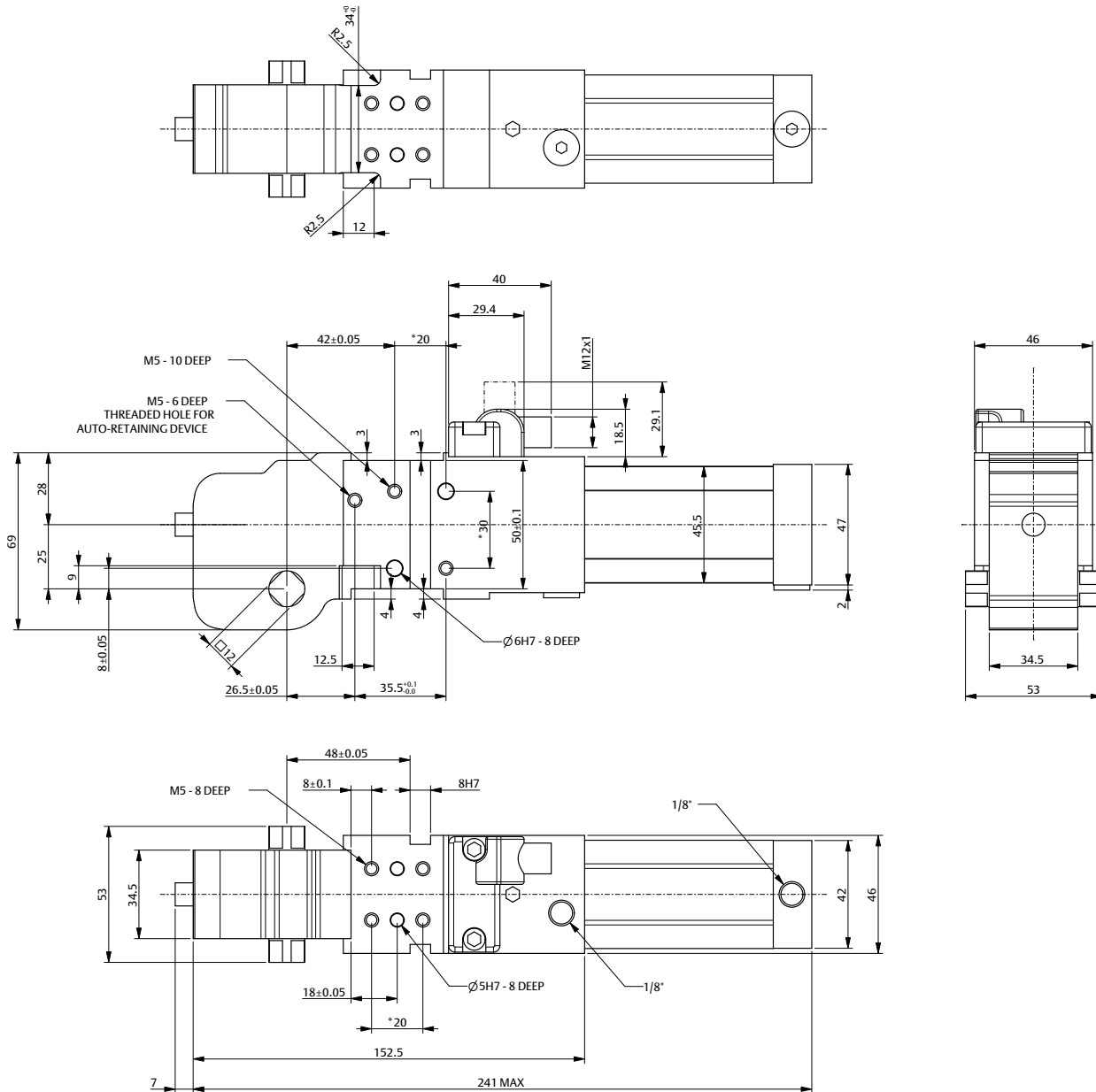
Weight: 0.987 kg

Dimensional Tolerances For Dowel Holes: ±0.02

Dimensional Tolerances For Threaded Hole: ±0.1

Dimensions: mm

Dimensional Drawing - International Mount Power Clamp - 32 mm Bore Size



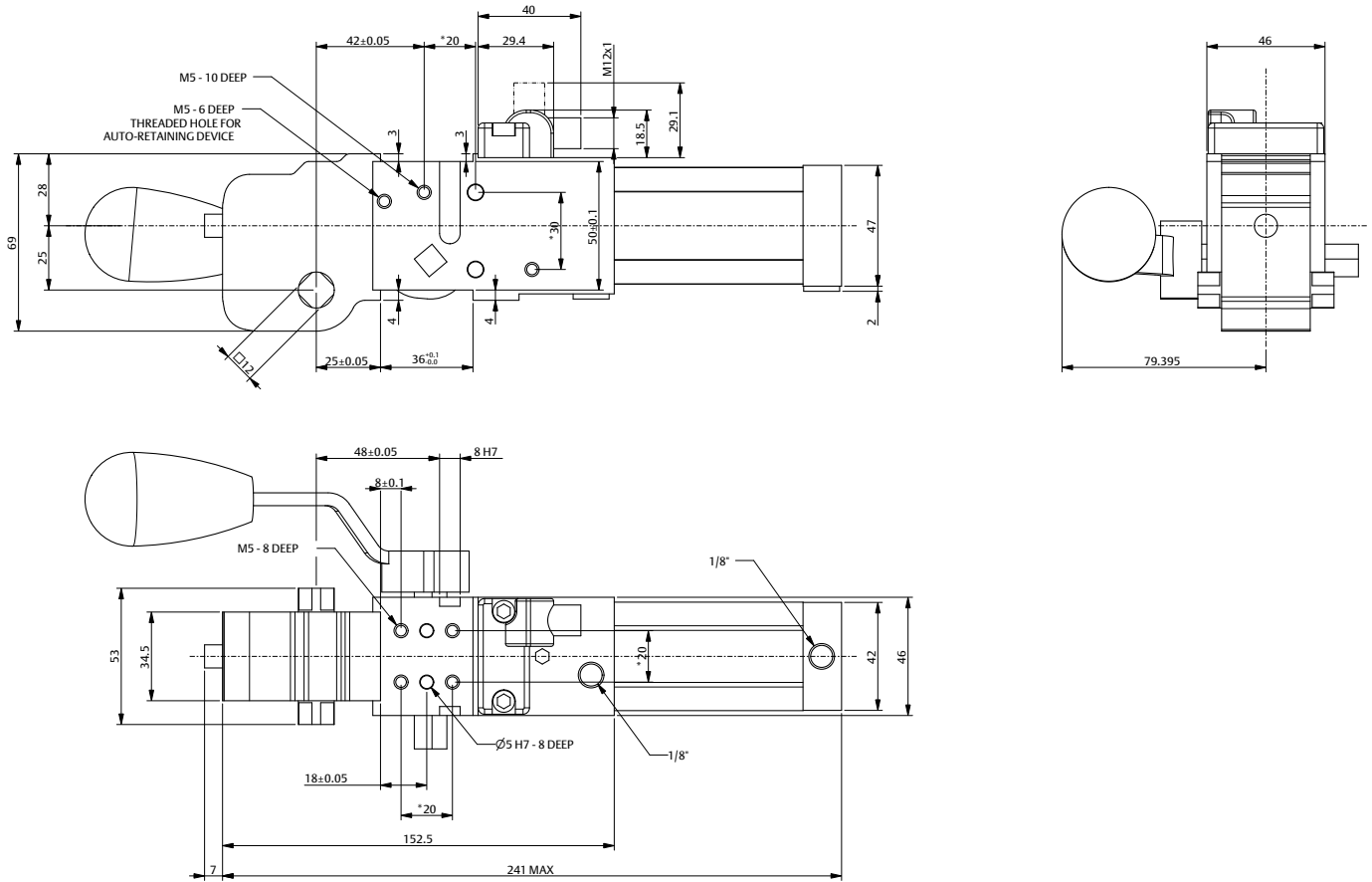
Weight: 0.987 kg

Dimensional Tolerances For Dowel Holes: ±0.02

Dimensional Tolerances For Threaded Hole: ±0.1

Dimensions: mm

Dimensional Drawing - International Mount Power Clamp - 32 mm Bore Size with Manual Operation



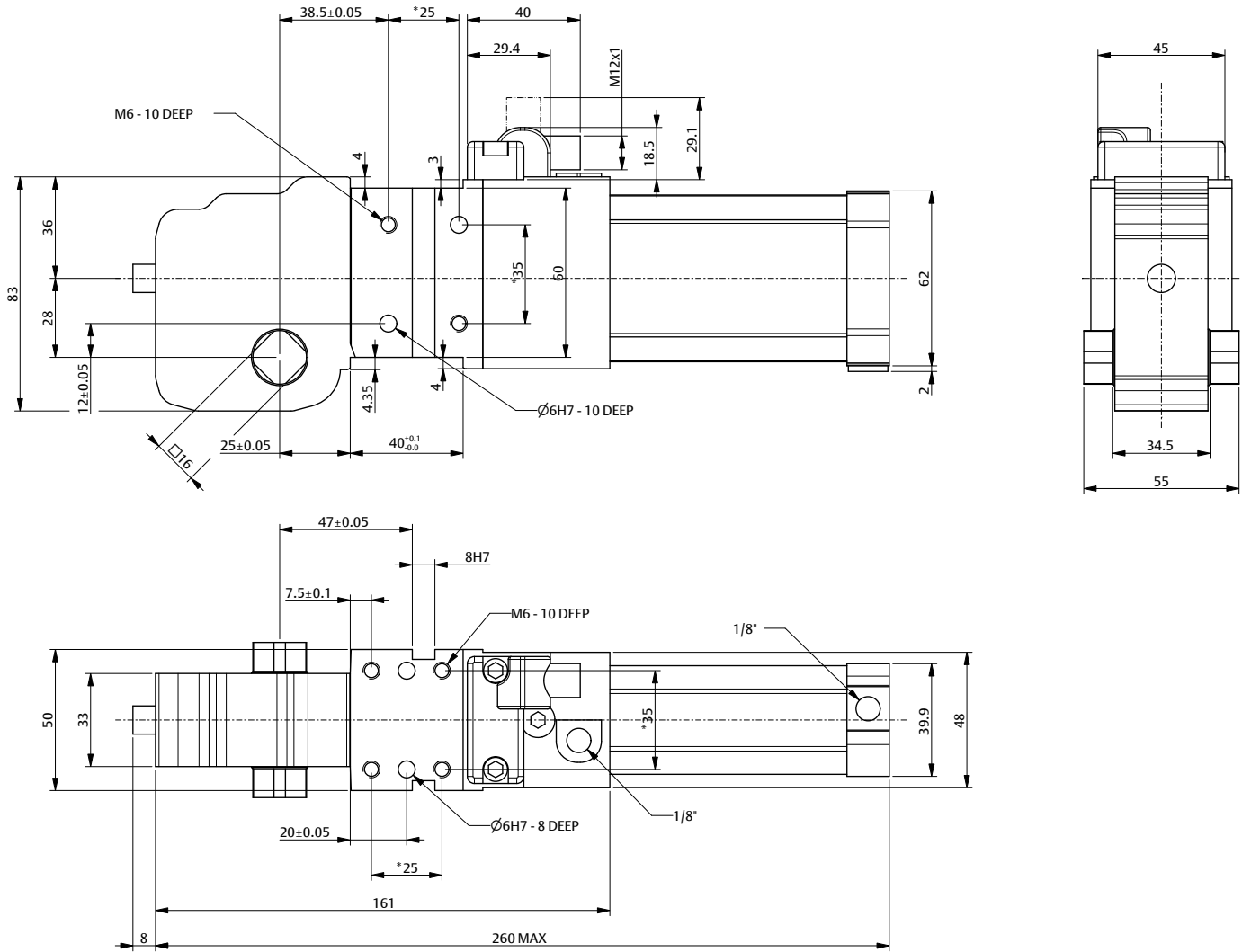
Weight: 1.36 kg

Dimensional Tolerances For Dowel Holes: ±0.02

Dimensional Tolerances For Threaded Hole: ±0.1

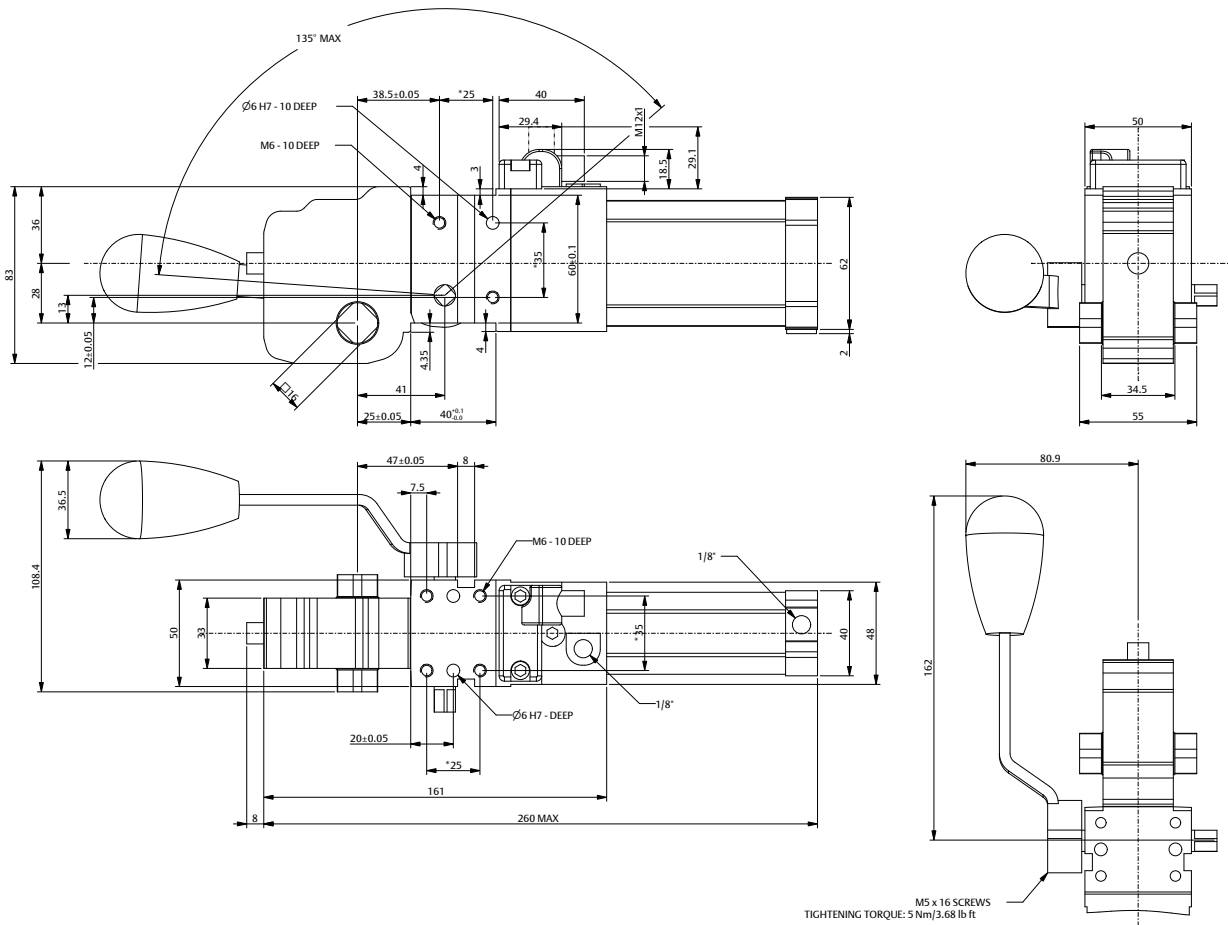
Dimensions: mm

Dimensional Drawing - International Mount Power Clamp - 40 mm Bore Size



Weight: 1.45 kg
 Dimensional Tolerances For Dowel Holes: ± 0.02
 Dimensional Tolerances For Threaded Hole: ± 0.1
 Dimensions: mm

Dimensional Drawing - International Mount Power Clamp - 40 mm Bore Size with Manual Operation



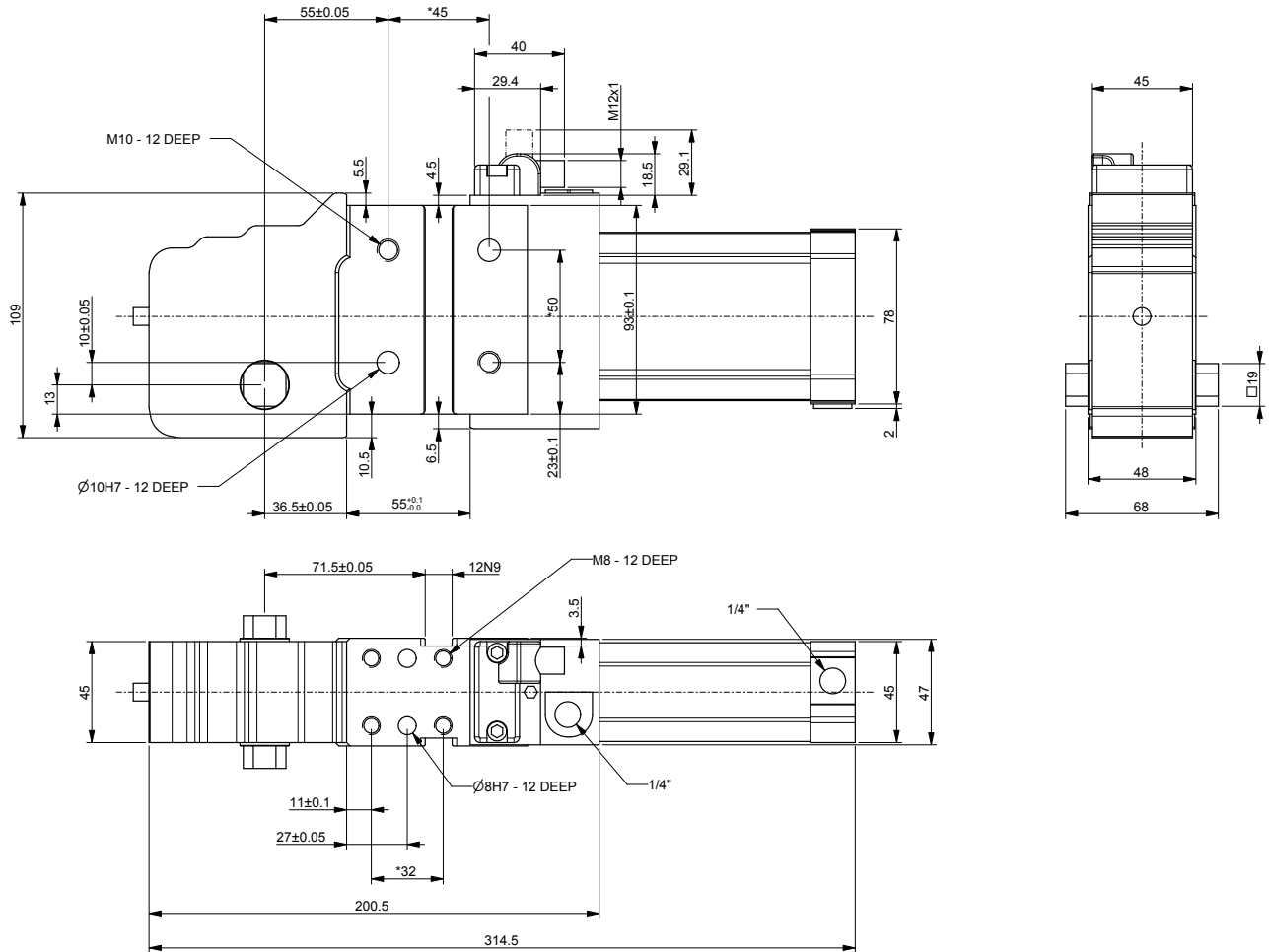
Weight: 1.75 kg

Dimensional Tolerances For Dowel Holes: ± 0.02

Dimensional Tolerances For Threaded Hole: ± 0.1

Dimensions: mm

Dimensional Drawing - International Mount Power Clamp - 50 mm Bore Size



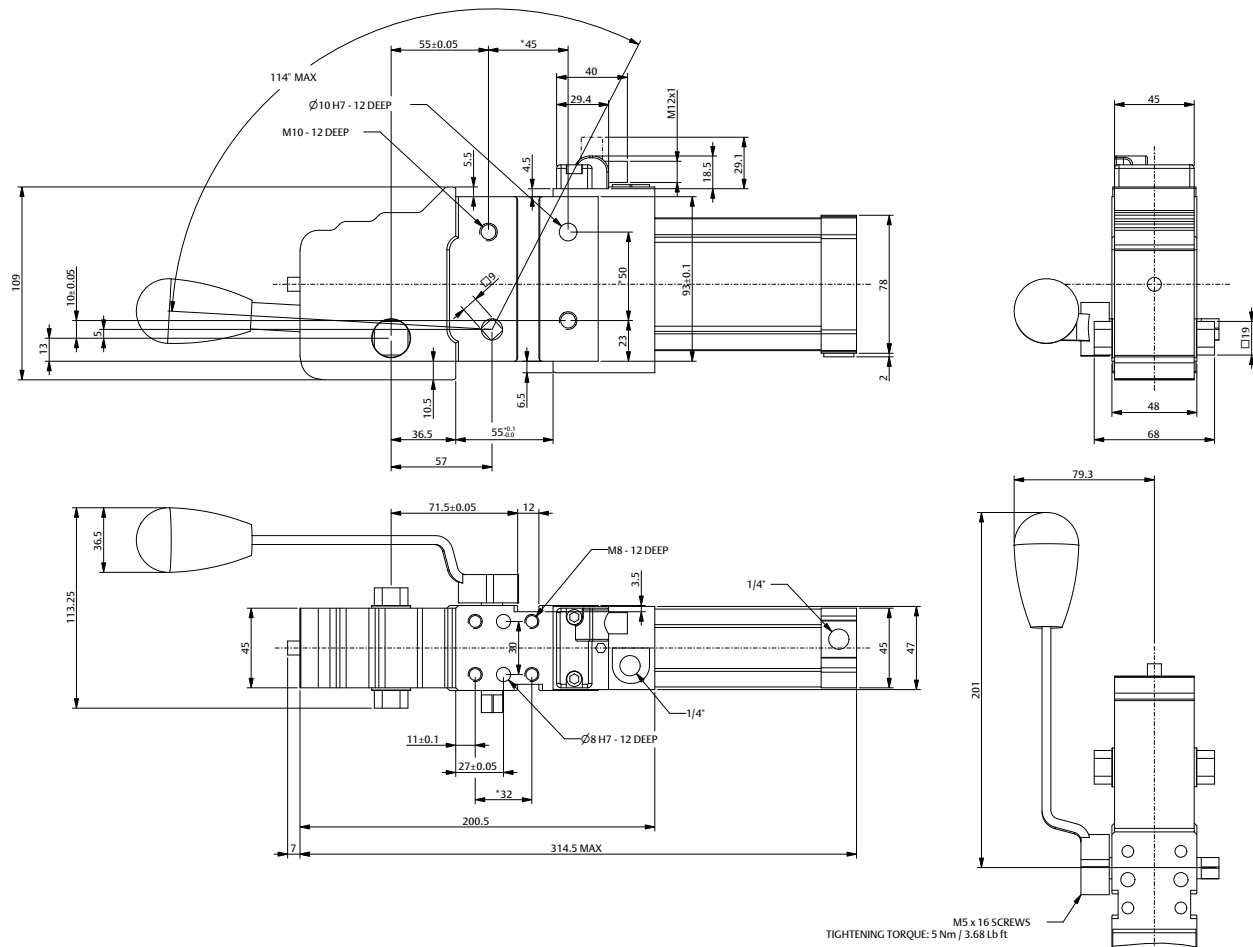
Weight: 2.70 kg

Dimensional Tolerances For Dowel Holes: ± 0.02

Dimensional Tolerances For Threaded Hole: ± 0.1

Dimensions: mm

Dimensional Drawing - International Mount Power Clamp - 50 mm Bore Size with Manual Operation



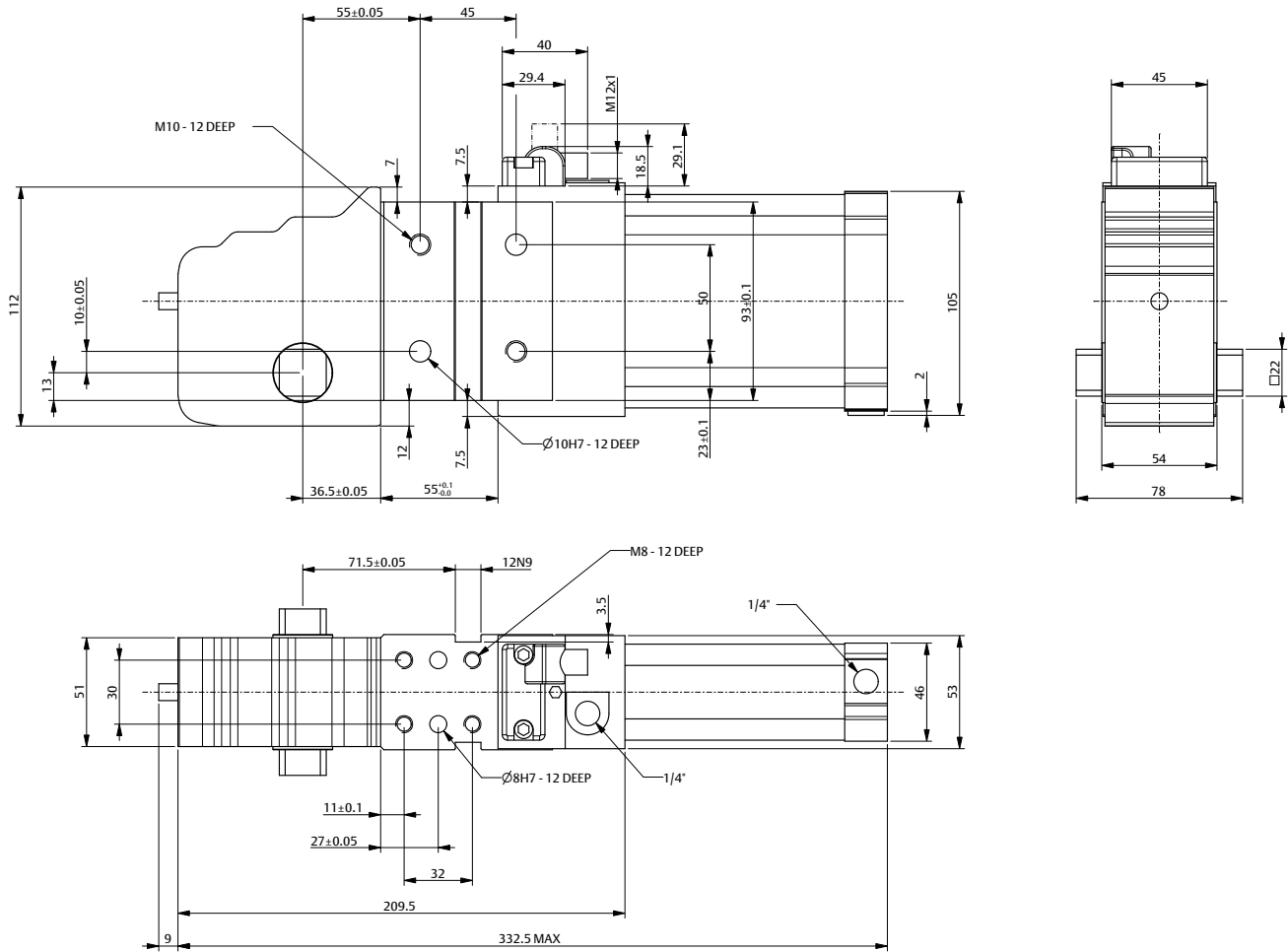
Weight: 3.10 kg

Dimensional Tolerances For Dowel Holes: ± 0.02

Dimensional Tolerances For Threaded Hole: ± 0.1

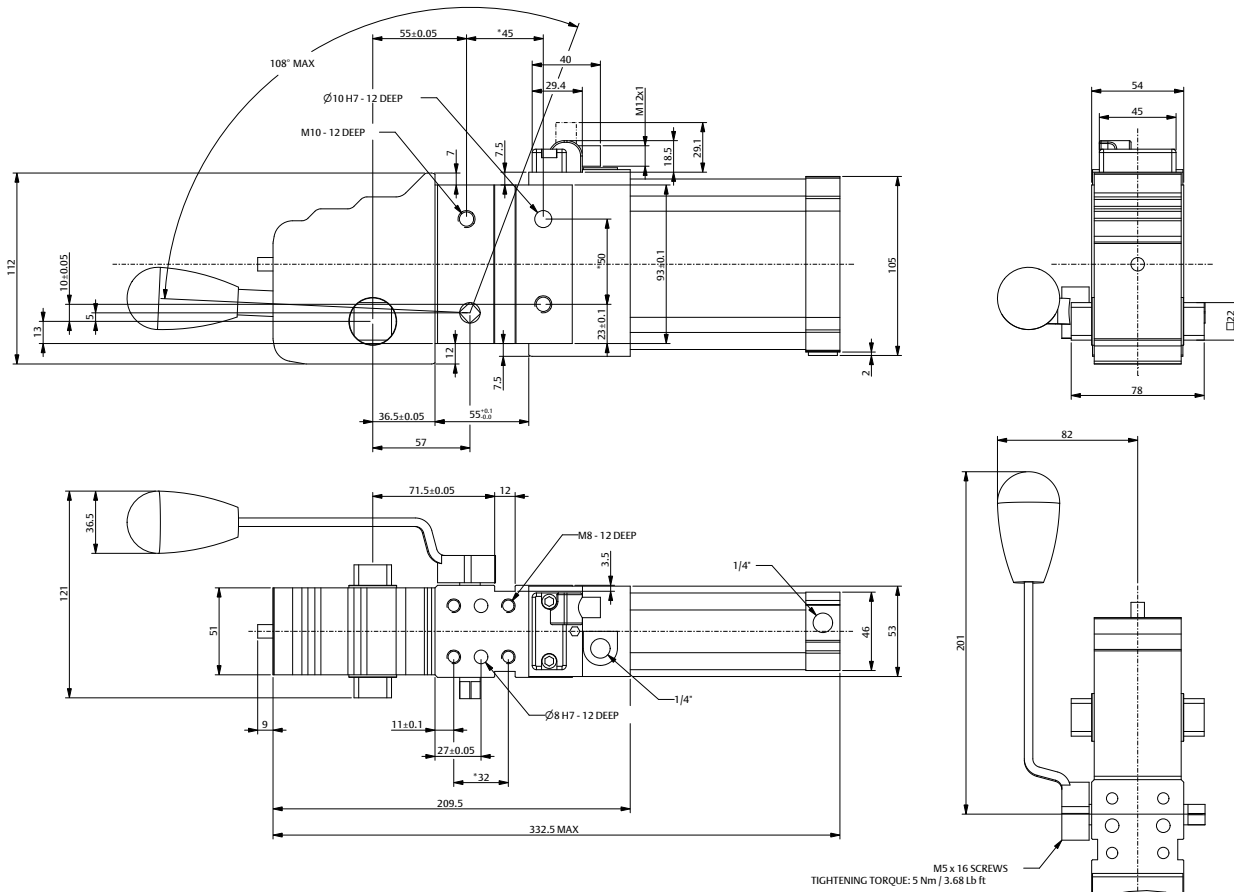
Dimensions: mm

Dimensional Drawing - International Mount Power Clamp - 63 mm Bore Size



Weight: 3.50 kg
 Dimensional Tolerances For Dowel Holes: ±0.02
 Dimensional Tolerances For Threaded Hole: ±0.1
 Dimensions: mm

Dimensional Drawing - International Mount Power Clamp - 63 mm Bore Size with Manual Operation



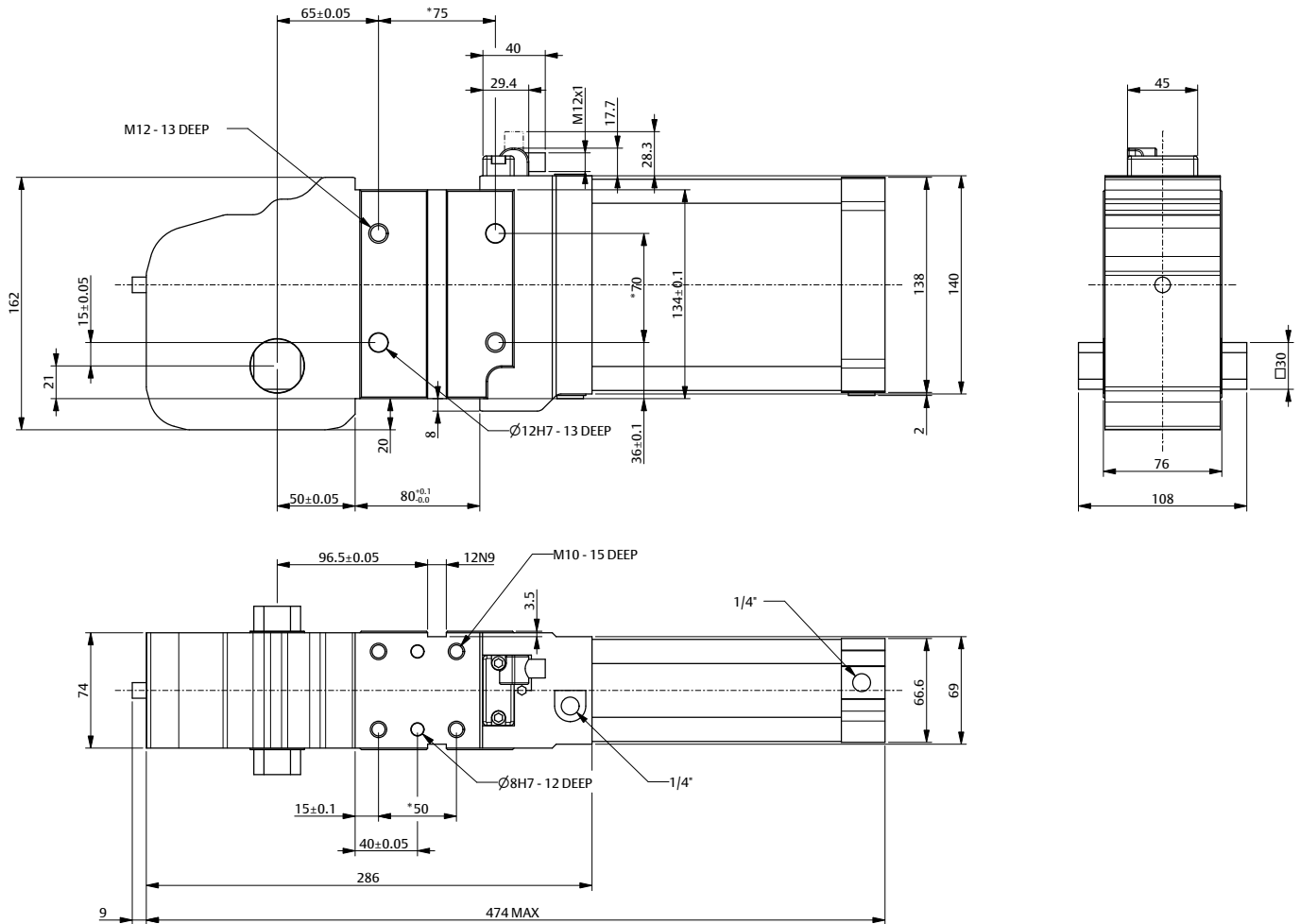
Weight: 3.93 kg

Dimensional Tolerances For Dowel Holes: ± 0.02

Dimensional Tolerances For Threaded Hole: ± 0.1

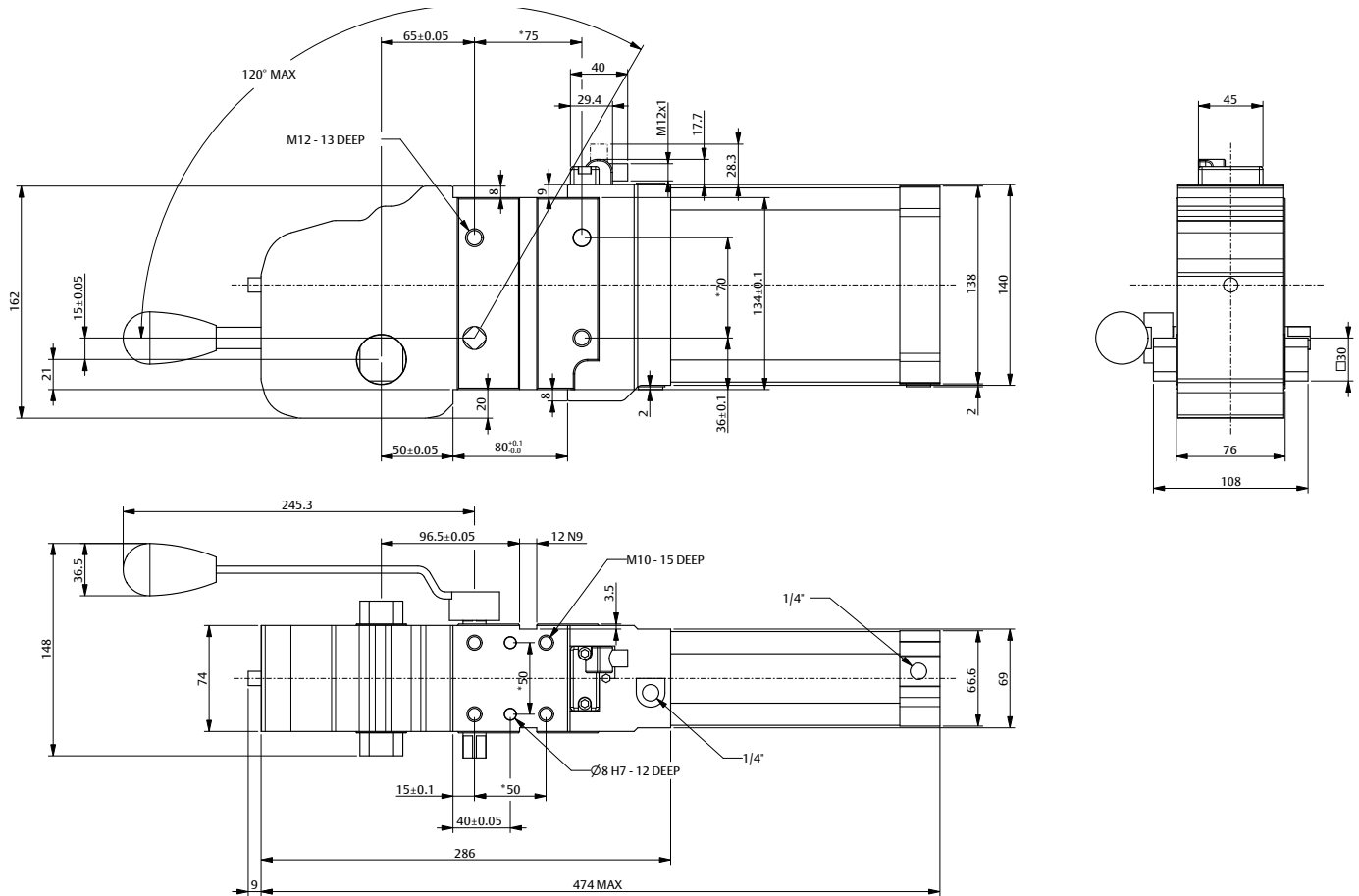
Dimensions: mm

Dimensional Drawing - International Mount Power Clamp - 80 mm Bore Size



Weight: 8.54 kg
 Dimensional Tolerances For Dowel Holes: ±0.02
 Dimensional Tolerances For Threaded Hole: ±0.1
 Dimensions: mm

Dimensional Drawing - International Mount Power Clamp - 80 mm Bore Size with Manual Operation



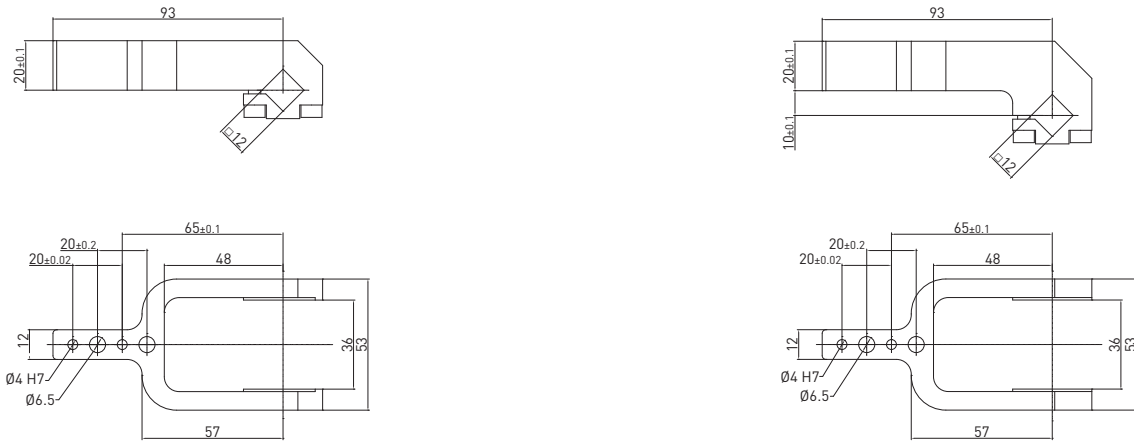
Weight: 8.80 kg

Dimensional Tolerances For Dowel Holes: ±0.02

Dimensional Tolerances For Threaded Hole: ±0.1

Dimensions: mm

Dimensional Drawing - Arm - International - 12 mm Shaft for 25 and 32 mm Bore Size



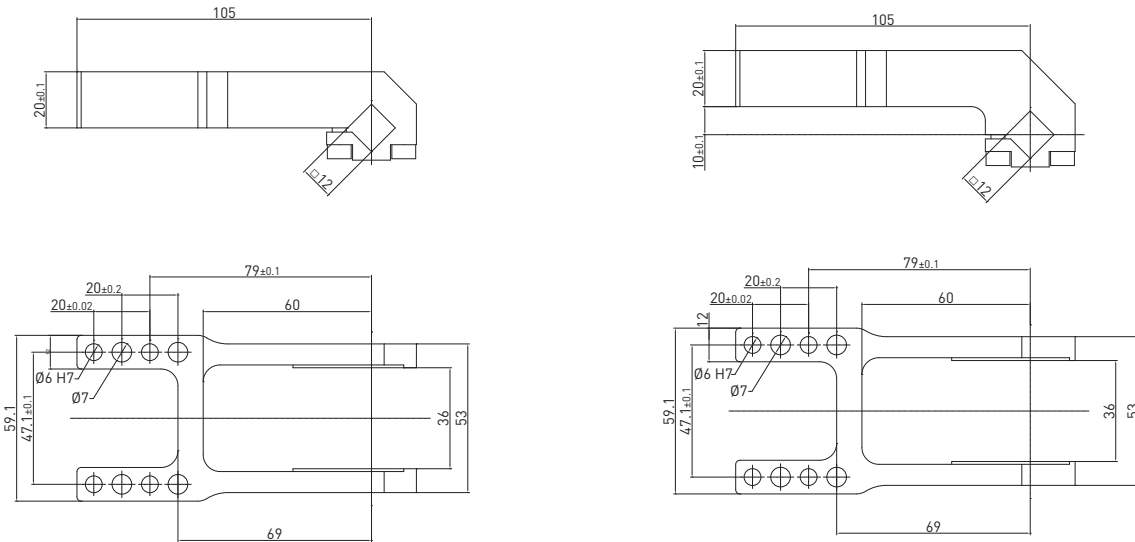
12 mm shaft – 0 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550026-001	Aluminum	Central	0.127	135°	105°	135°	90°

12 mm shaft – 10 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550026-002	Aluminum	Central	0.135	135°	120°	N/A	45°

Screws: M5x14 Tightening torque: 5 N m / 3.68 lb-ft



12 mm shaft – 0 mm offset

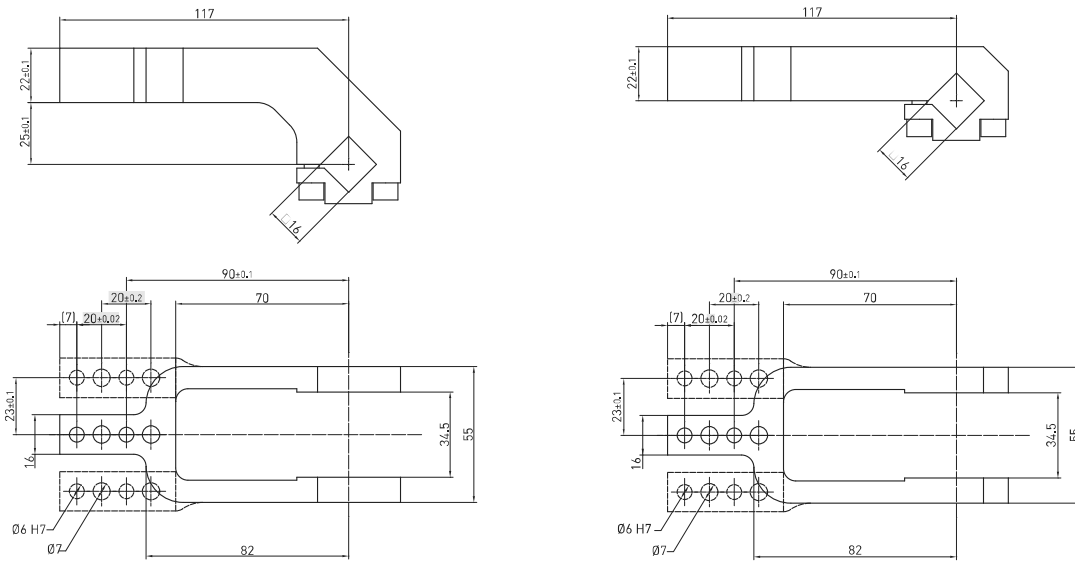
Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550026-003	Aluminum	H	0.163	135°	115°	N/A	45°

12 mm shaft – 10 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550026-004	Aluminum	H	0.173	135°	115°	N/A	45°

Screws: M5x14 Tightening torque: 5 N m / 3.68 lb-ft

Dimensional Drawing - Arm - International - 16 mm Shaft for 40 mm Bore Size



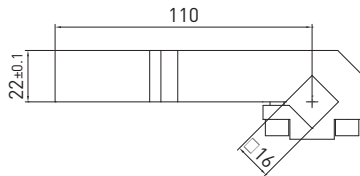
16 mm shaft – 25 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550027-013	Aluminum	Central	0.25	135°	135°	N/A	45°
550027-014	Aluminum	Right	0.25	135°	135°	N/A	45°
550027-015	Aluminum	Left	0.25	135°	135°	N/A	45°

16 mm shaft – 0 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550027-016	Aluminum	Central	0.25	135°	105°	135°	90°
550027-017	Aluminum	Right	0.25	135°	105°	135°	90°
550027-018	Aluminum	Left	0.25	135°	105°	135°	90°

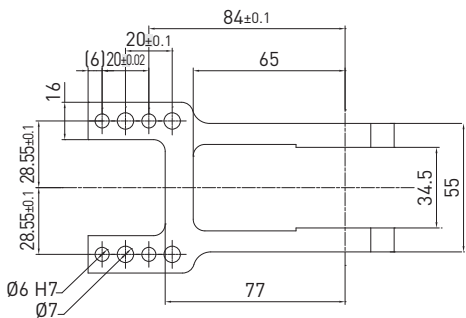
Screws: M6x20 Tightening torque: 10 N m / 7.37 lb-ft



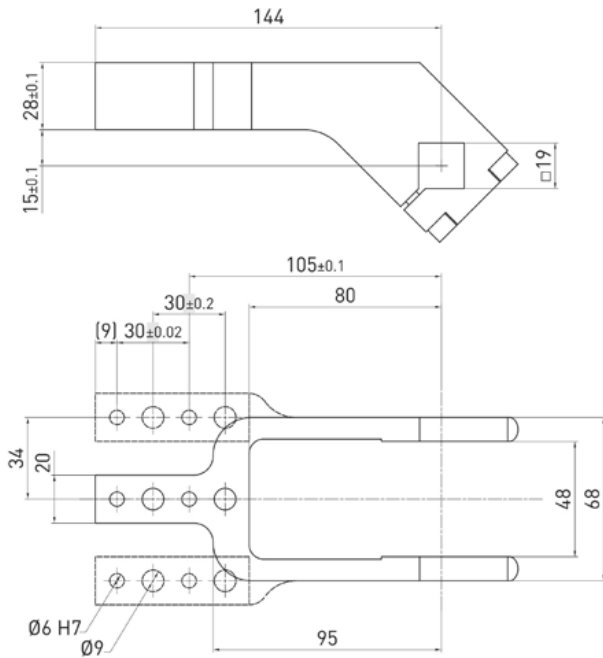
16 mm shaft – 0 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550027-019	Aluminum	H	0.27	125°	45°	135°	35° MAX

Screws: M6x20 Tightening torque: 10 N m / 7.37 lb-ft



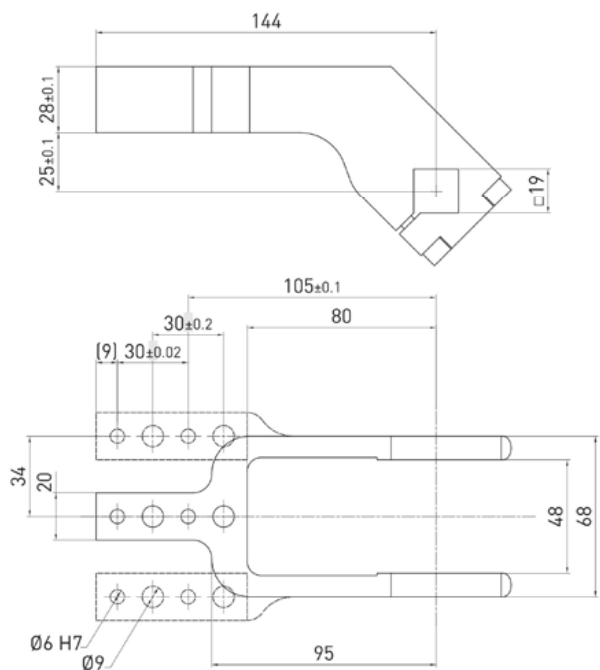
Dimensional Drawing - Arm - International - 19 mm Shaft for 50 mm Bore Size



19 mm shaft – 15 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550028-001	Aluminum	Central	0.41	135°	115°	135°	80°
550028-002	Steel	Central	0.71	135°	115°	135°	80°
550028-003	Aluminum	Right	0.43	135°	115°	135°	80°
550028-004	Steel	Right	0.79	135°	115°	135°	80°
550028-005	Aluminum	Left	0.43	135°	115°	135°	80°
550028-006	Steel	Left	0.79	135°	115°	135°	80°

Screws: M6x25 Tightening torque: 10 N m / 7.37 lb-ft

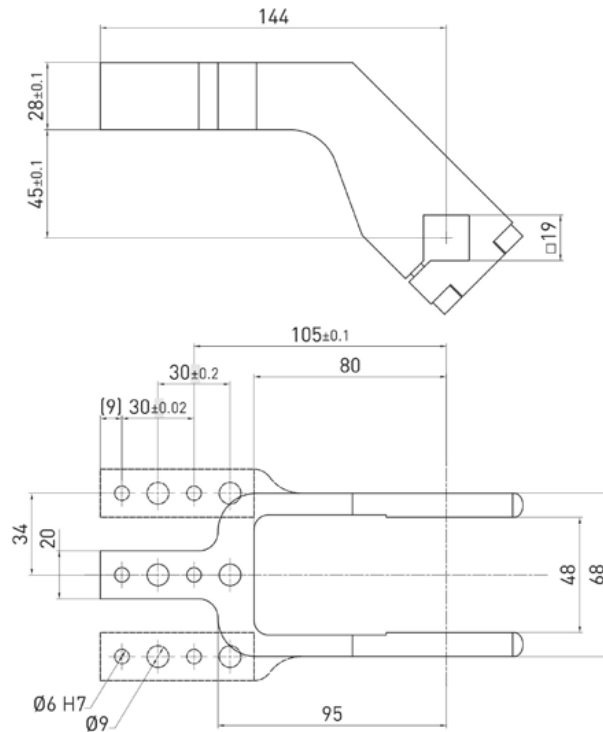


19 mm shaft – 25 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550028-016	Aluminum	Central	0.43	135°	115°	135°	80°
550028-017	Aluminum	Central	0.44	135°	115°	135°	80°
550028-018	Aluminum	Central	0.44	135°	115°	135°	80°

Screws: M6x25 Tightening torque: 10 N m / 7.37 lb-ft

Dimensional Drawing - Arm - International - 19 mm Shaft for 50 mm Bore Size

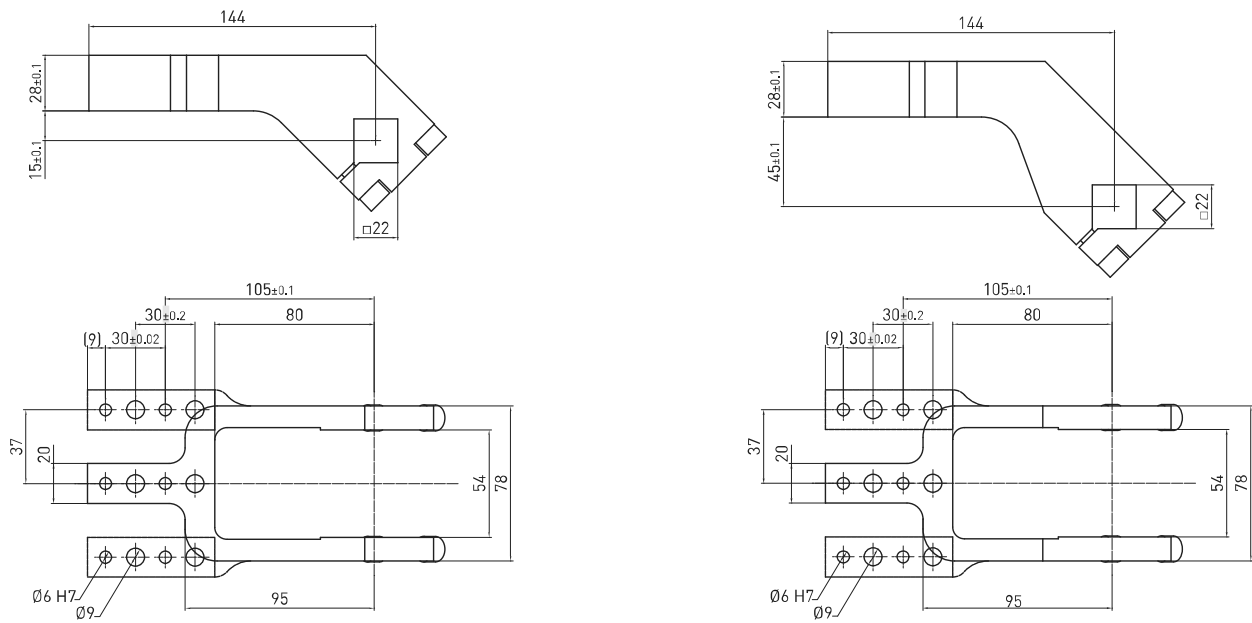


19 mm shaft – 45 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550028-010	Aluminum	Central	0.45	135°	135°	135°	80°
550028-011	Steel	Central	0.77	135°	135°	135°	80°
550028-012	Aluminum	Right	0.46	135°	135°	135°	80°
550028-013	Steel	Right	0.81	135°	135°	135°	80°
550028-014	Aluminum	Left	0.46	135°	135°	135°	80°
550028-015	Steel	Left	0.81	135°	135°	135°	80°

Screws: M6x25 Tightening torque: 10 N m / 7.37 lb-ft

Dimensional Drawing - Arm - International - 22 mm Shaft for 63 mm Bore Size



22 mm shaft – 15 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550029-001	Aluminum	Central	0.52	135°	115°	135°	80°
550029-002	Steel	Central	0.9	135°	115°	135°	80°
550029-003	Aluminum	Right	0.54	135°	115°	135°	80°
550029-004	Steel	Right	0.93	135°	115°	135°	80°
550029-005	Aluminum	Left	0.54	135°	115°	135°	80°
550029-006	Steel	Left	0.93	135°	115°	135°	80°

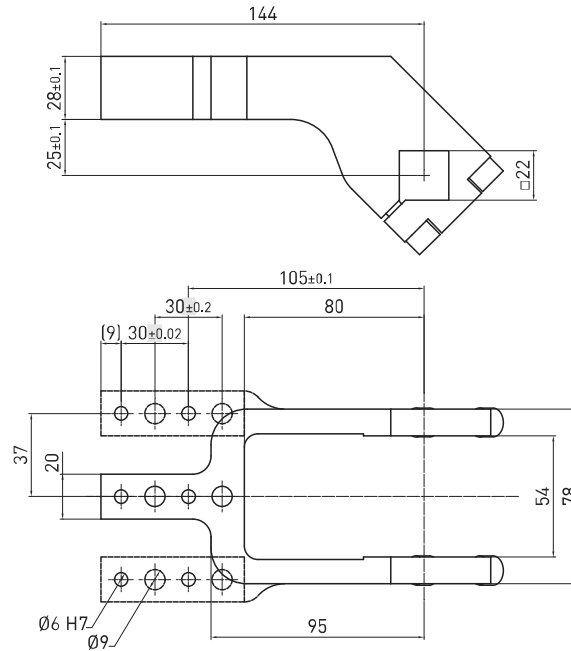
Screws: M8x25 Tightening torque: 25 N m / 18.43 lb-ft

22 mm shaft – 45 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550029-007	Aluminum	Central	0.57	135°	135°	135°	75°
550029-008	Steel	Central	0.98	135°	135°	135°	75°
550029-009	Aluminum	Right	0.58	135°	135°	135°	75°
550029-010	Steel	Right	1.02	135°	135°	135°	75°
550029-011	Aluminum	Left	0.54	135°	135°	135°	75°
550029-012	Steel	Left	0.93	135°	135°	135°	75°

Screws: M8x25 Tightening torque: 25 N m / 18.43 lb-ft

Dimensional Drawing - Arm - International - 22 mm Shaft for 63 mm Bore Size

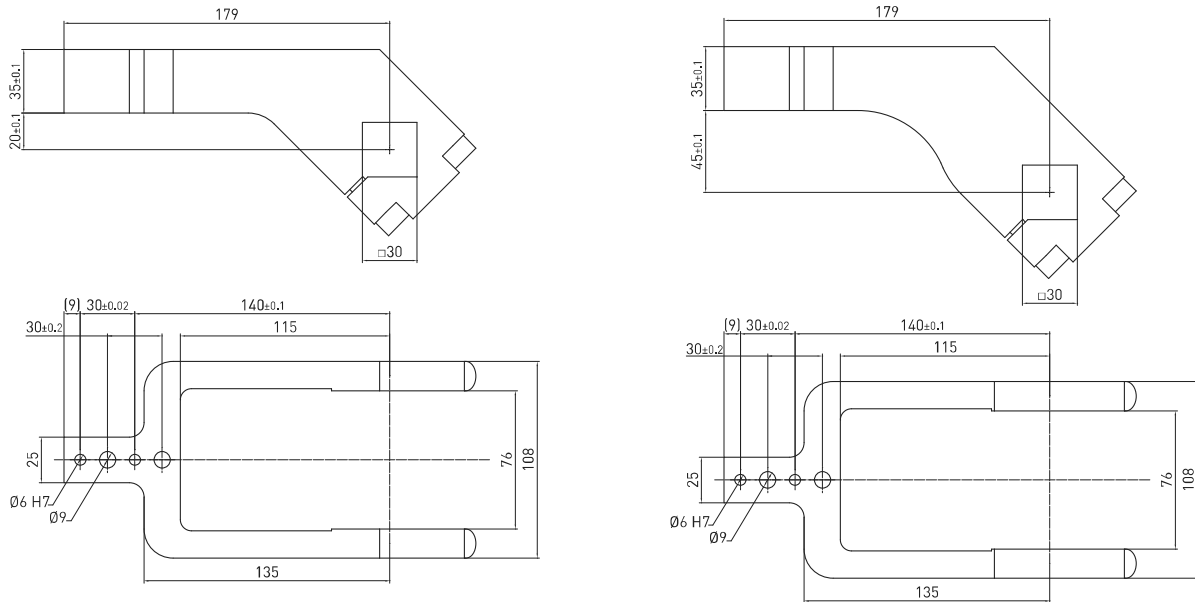


22 mm shaft – 25 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550029-013	Aluminum	Central	0.55	135°	115°	135°	80°
550029-014	Aluminum	Right	0.57	135°	115°	135°	80°
550029-015	Aluminum	Left	0.57	135°	115°	135°	80°

Screws: M8x25 Tightening torque: 25 N m / 18.43 lb-ft

Dimensional Drawing - Arm - International - 30 mm Shaft for 80 mm Bore Size



30 mm shaft – 20 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550030-001	Aluminum	Central	1.1	135°	110°	135°	75°
550030-002	Aluminum	Right	1.15	135°	110°	135°	75°
550030-003	Aluminum	Left	1.15	135°	110°	135°	75°

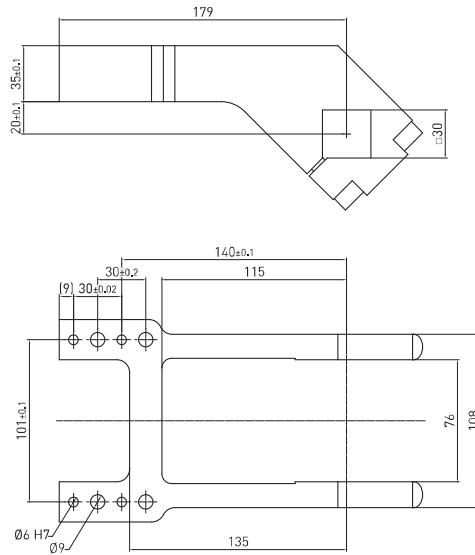
Screws: M10x40 Tightening torque: 35 N m / 25.81 lb·ft

30 mm shaft – 45 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550030-004	Aluminum	Central	1.18	135°	110°	135°	75°
550030-005	Aluminum	Right	1.2	135°	110°	135°	75°
550030-006	Aluminum	Left	1.2	135°	110°	135°	75°

Screws: M10x40 Tightening torque: 35 N m / 25.81 lb·ft

Dimensional Drawing - Arm - International - 30 mm Shaft for 80 mm Bore Size

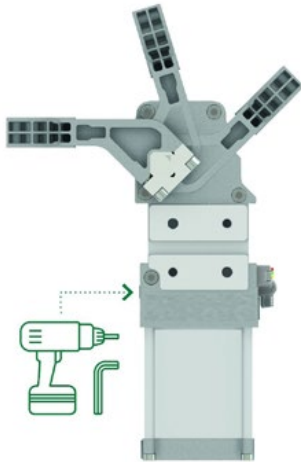


30 mm shaft – 20 mm offset

Part Number	Material	Version	Weight (kg)	Maximum Opening Angle			
				Standard 90° Arm	Standard 180° Arm	Inverse 90° Arm	Inverse 180° Arm
550030-007	Aluminum	H	1.4	135°	110°	135°	75°

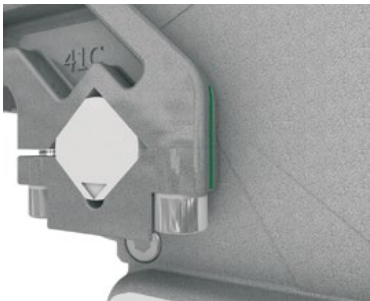
Screws: M10x40 Tightening torque: 35 N m / 25.81 lb-ft

Opening Angle Adjustment



1. Set the clamping arm in the open position.
2. Insert a 5mm hexagonal flat Allen wrench or driver and adjust the opening position to the required angle.

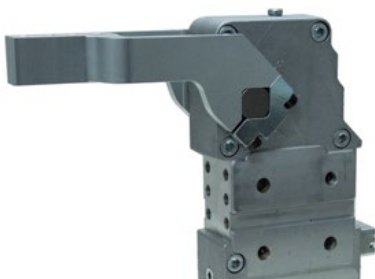
Clamping Arm Mounting



1. The bracket sides have two different heights. Assemble the brackets to the side of the clamping arm so that the surfaces where the machined mark (shown in picture) will match.
2. Secure the screw closest to the mark shown by tightening to the indicated torque, leaving no gap between the bracket and arm.
3. Secure the other screw. Due to the difference in length of the sides of the bracket, there will be a noticeable gap. Always use locking washers.

Mounting Instructions

The mounting of the unit to the equipment can be carried out by using one of its four mounting surfaces, using dowels and screws.



Tightening torques:

M5 5 N m / 3.68 lb-ft

M6 10 N m / 7.37 lb-ft

M8 25 N m / 18.43 lb-ft

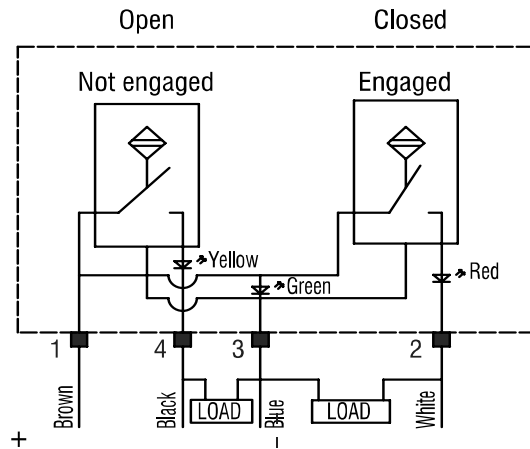
M10 35 N m / 25.81 lb-ft

M12 50 N m / 36.87 lb-ft

Always use all bores on the mounting pattern.

Electronic Sensor

Sensor Features	
Operating Voltage	10-30VDC
Voltage drop	≤ 2 V
Load current	≤ 100 mA
Current consumption	≤ 30 mA
Short-circuit protection	protected
Protection rating	IP68
Operating temperature	0 °C +50 °C
Storage temperature	-25 °C +60 °C
Electromagnetic compatibility	EN 60947-5-2:2007 + A1:2012
Power supply indication	green LED
Open position indication	yellow LED
Closed position indication	red LED
Digital output type	PNP or NPN



How to orient the connector

1. Unscrew the connector screw.
2. Open the cover.
3. Rotate the connector.
4. Close the cover and screw.

How to replace the sensor

1. It is not necessary to remove air supply.
2. Remove the sensor's M5 screw.
3. Insert a new sensor.
4. Tighten the same M5 screw with 5 N m / 3.68 lb-ft.

Replacement Sensors

Part #	Description
550244-001	Electronic Sensor with M12 Swivel Connector (PNP)
550244-002	Electronic Sensor with M12 Swivel Connector (NPN)
550244-003	Electronic Sensor with M8 Swivel Connector (PNP)

Type and frequency of controls and/or maintenance work

The unit has been designed and constructed in such a way that specific programmed maintenance is not necessary; a monthly external cleaning of the application with suitable, non-aggressive and non-corrosive detergents is recommended.

Handling, positioning, and maintenance operations should only be performed by trained personnel who follow appropriate safety precautions. Warn operators of the risk of being crushed between the clamping arm and the shims mounted under the arm. As a preventive measure, manufacturer recommends that the user install an appropriate signaling device or security system near the dangerous areas to alert the operator.

Replacement Handles for Manual Levers

Part #	Description
553449-001	Replacement Handle for 25, 32 mm Manual Clamps
553449-002	Replacement Handle for 40 mm Manual Clamps
553449-003	Replacement Handle for 50, 63 mm Manual Clamps
553449-004	Replacement Handle for 80 mm Manual Clamps

Handles include green knob, bracket, and M5x16 screws. Tightening torque: 5 N m (3.68 lb-ft).
 Handles can only be used on clamps with Manual Operation.

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