

NEW



Minirol - Macrol - Masterol

*Torque control
pneumatic rolling machines for
tube bundle heat exchangers
manufacture and
maintenance*



MADE IN ITALY

Maus Italia Historical notes



Franco Agostino
The founder



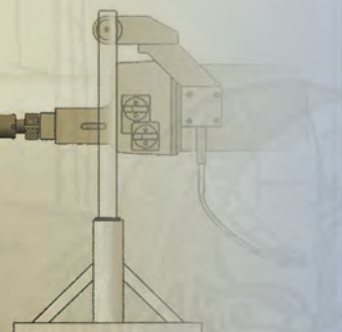
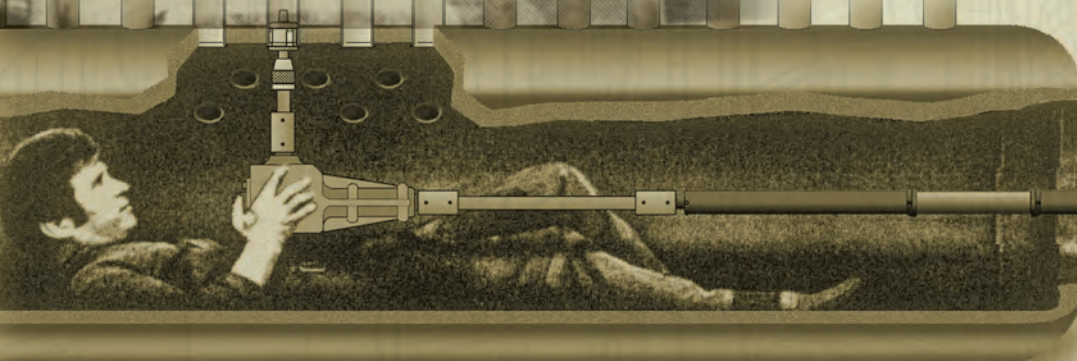
since 1961

At the end of the 50s, Franco Agostino seized the opportunity to grasp the art of manufacturing tube expanders which an elderly German manufacturer, Mr. Albert Otto, presented to him. Then, thanks to his indomitable courage and intuition, Mr. Agostino set up that small Italian factory that a few years later would become Maus Italia.

In those years Franco Agostino introduced the electronic control rolling system in the company's sales program, meeting the approval of the qualified and ever-demanding Italian customer base in terms of quality and safety.

Once again, at Maus Italia, the innovation arises from a long history of passion and enthusiasm, deeply rooted in the company, which infuses the proposed products.

This new catalogue aims at helping the technician in choosing the product.



Minirol - Macrol - Masterol

*Torque control
pneumatic rolling machines for*
**tube bundle heat exchangers
manufacture and
maintenance**

By its **Minirol**, **Macrol** and **Masterol** series, Maus Italia offers a flexible and cost-efficient solution to use tube expanders.

The Maus Italia pneumatic rolling machines are swift, light, and safe and they are the ideal solution for both **manufacturers** who are equipping themselves to expand tubes for the first time and **maintenance operators** who want to operate on-site in a **safe** and **high quality** environment.



Minirol	MP- 4
Macrol	MP- 8
Masterol	MP- 12

BWG	MP- 16
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Symbols

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Expansion detail with **Masterol 90** on boiler



DET NORSKE VERITAS
QUALITY MANAGEMENT SYSTEM CERTIFICATE

Certificato No. / Certificate No. **CERT-00464-95-AQ-MIL-SINCERT**

Si attesta che / This certifies that

Il sistema di gestione per la qualità di / the quality management system of

M.A.U.S. ITALIA di F. Agostino & C. Sas

S.S. Paullese Km 30 - 26010 Bagnolo Cremasco (CR) - Italy

È conforme ai requisiti della norma per i sistemi di gestione per la qualità
Conforms to the quality management systems standard

UNI EN ISO 9001:2000 (ISO 9001:2000)

Questa certificazione è valida per il seguente campo applicativo:

This certificate is valid for the following products or services:

(Clienti chiarimenti riguardanti lo scopo e l'applicabilità dei requisiti della norma si possono ottenere consultando l'organizzazione certificata)
(Further clarifications regarding the scope and the applicability of the requirements of the standards may be obtained by consulting the certified organization)

**Progettazione e produzione di mandrini allargatubi, macchine per mandrinare
e macchine per la manutenzione di scambiatori di calore**

**Design and production of tube expanders, rolling equipments
and machines for maintenance of heat exchangers**

Data Prima Emissione
First Issue Date
1995-04-18

Data di scadenza
Expiry Date
2012-03-25

Lavoro e data
Place and date
Agrate Brianza, (MI) 2009-04-06

SINCERT
SINCERT
SINCERT

per l'Organismo di Certificazione
for the Accredited Unit
DET NORSKE VERITAS ITALIA S.R.L.

Settore EA: 17-18

0000 Registrata in Italia
0000 Registrata in Italia
0000 Registrata in Italia

Vittore Marangon

Renato Fratini
Lead Auditor

Vittore Marangon
Management Representative

La validità del presente certificato è subordinata a sorveglianza periodica (ogni 6, 9 o 12 mesi) e al riesame completo del sistema con periodicità triennale.
The validity of this certificate is subject to periodical audits (every 6, 9 or 12 months) and the complete re-assessment of the system every three years.
For details on procedure of surveillance audits, please contact the issuing office or visit our website: www.dnv.it or our Italian representative: www.dnv.it/italy

Air conditioner and air cooler assembly

Minirol

Torque control
pneumatic rolling
machine with
automatic reverse for
1/4" to 1/2" (6.3 to
12.7 mm) tubes.

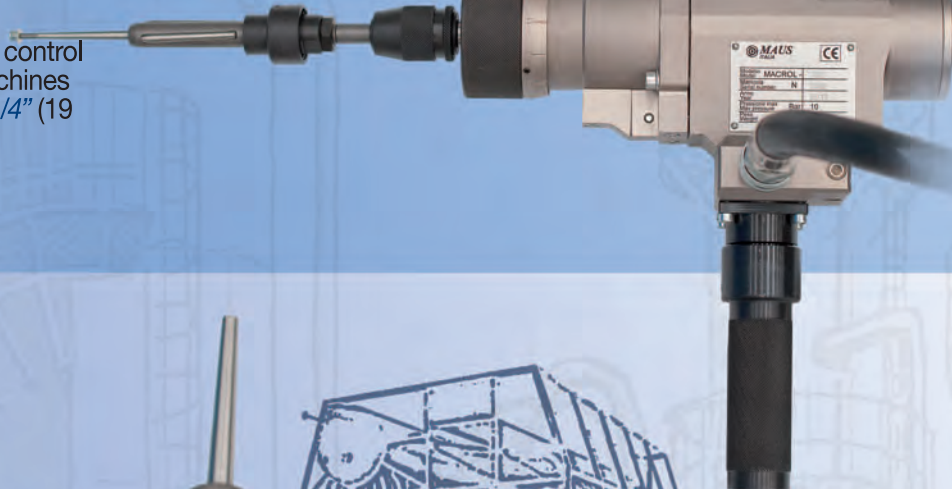


Up to
1/2"
(12,7 mm)

Heat exchanger maintenance on-site

Macrol

Wide range of torque control
pneumatic rolling machines
suitable for 3/4" to 2.1/4" (19
to 58 mm) tubes.

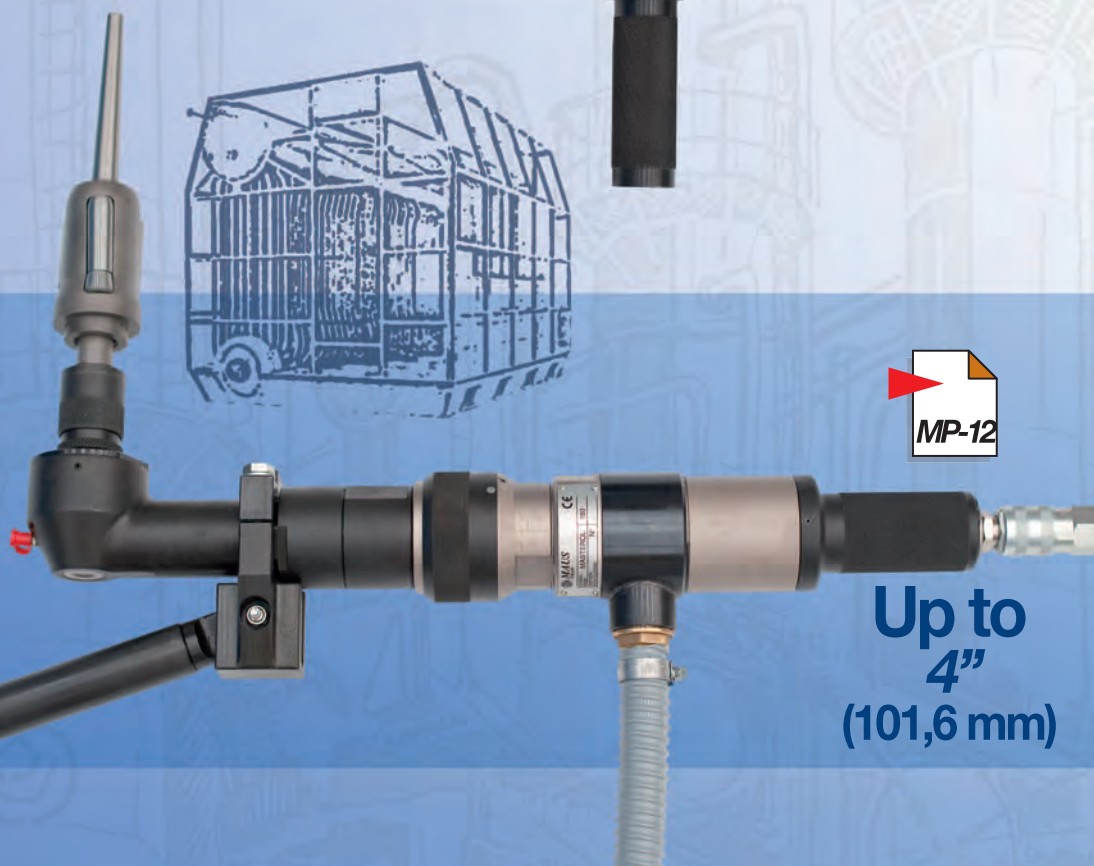


Up to
2.1/4"
(58 mm)

Boiler assembly

Masterol

Right angle torque control
pneumatic rolling machines
suitable for boiler tubes up
to 4" (101,6 mm)



Up to
4"
(101,6 mm)

Minirol

MAUS
ITALIA

Self-reversible

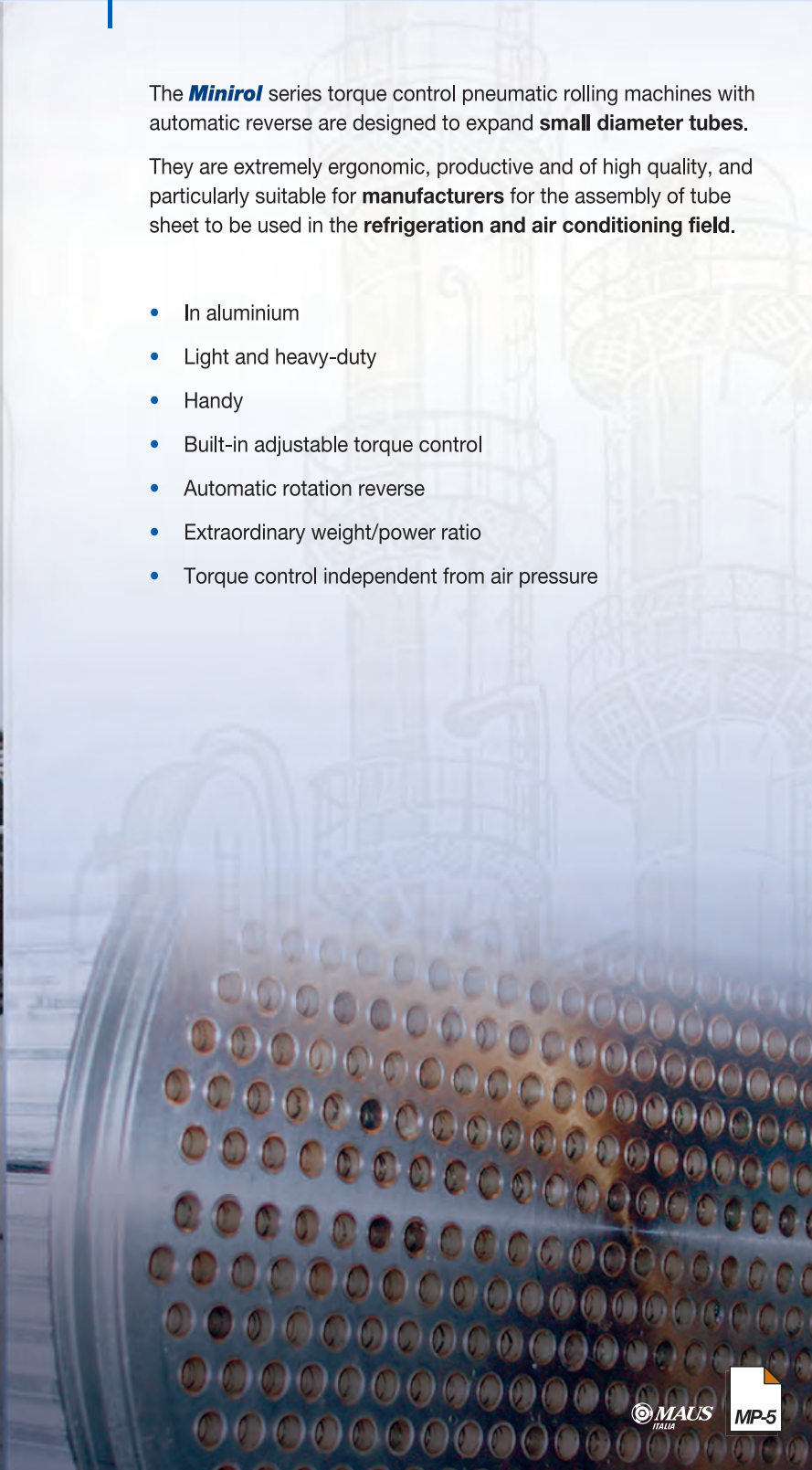
Minirol

Torque control pneumatic rolling machine with automatic reverse for **1/4" to 1/2" (6.3 to 12.7 mm)** tubes.

The **Minirol** series torque control pneumatic rolling machines with automatic reverse are designed to expand **small diameter tubes**.

They are extremely ergonomic, productive and of high quality, and particularly suitable for **manufacturers** for the assembly of tube sheet to be used in the **refrigeration and air conditioning field**.

- In aluminium
- Light and heavy-duty
- Handy
- Built-in adjustable torque control
- Automatic rotation reverse
- Extraordinary weight/power ratio
- Torque control independent from air pressure





Technical specifications		Minirol-2400	Minirol-1100	Minirol-600
Speed	rpm (R.P.M)	2400	1100	600
Min. torque	Nm (Ft Lb)	0,2 1(0.15)	0,3 (0.22)	0,4 .30)
Max. torque	Nm (Ft Lb)	2,4 (1.77)	5,2 (3.84)	9,5 (7.01)
Inlet pressure	Bar (psi)	6,3 (92)	6,3 (92)	6,3 (92)
Air consumption	L/min (cfm)	380 (13.4)	420 (14.8)	420 (14.8)
Hex drive	mm (inches)	6,3 (1/4")	6,3 (1/4")	6,3 (1/4")
Air feeding threaded attachment	G / BSP	1/4" X 19	1/4" X 19	1/4" X 19
> Tube max Ø (outside) - Ferrous	mm (inches)	6,3 (1/4")	9,5 (3/8")	12,7 (1/2") <
> Tube max Ø (outside) - Nonferrous	mm (inches)	12,7 (1/2")	15,9 (5/8")	19,0 (3/4") <
Adapter	Code	F/311 -1/4"	F/311 -1/4"	F/311 -3/8"
Length A	mm (inches)	240 (9.5)	260 (10.2)	310 (12.2)
Width B	mm (inches)	193 (7.6)	193 (7.6)	193 (7.6)
Height / Ø C	mm (inches)	50 (2.0)	50 (2.0)	50 (2.0)
Weight	Kg (Lb)	1,24 (2.74)	1,36 (3.00)	1,80 (3.97)
Colour	RAL	7035	7035	7035

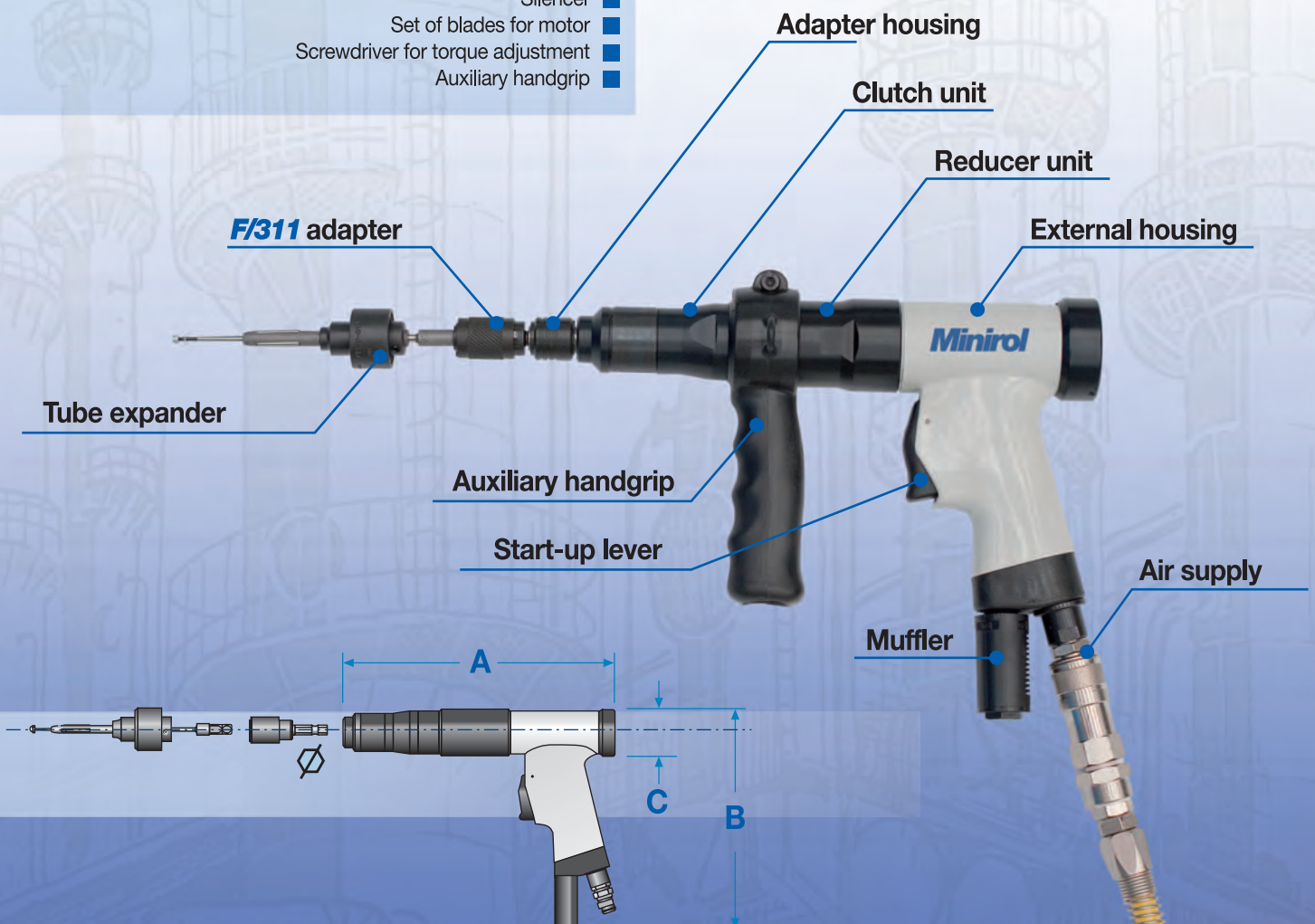
• All the values are measured with air pressure equal to 6,3 bar (90 psi)

Minirol

Torque control pneumatic rolling machine with automatic reverse for 1/4" to 1/2" (6.3 to 12.7 mm) tubes.

Standard supply

- Transport case ■
- Minirol** pneumatic rolling machine ■
- Instruction manual ■
- F/311** quick release adapter ■
- Lubricator ■
- Air inlet coiled tube Ø 12x8 mm L=10 m ■
- Air inlet 1/4" GAS tube attachment ■
- Silencer ■
- Set of blades for motor ■
- Screwdriver for torque adjustment ■
- Auxiliary handgrip ■



**Suitable for tubes
up to 2 1/4" - 58 mm**

Macrol

Wide range of torque control pneumatic rolling machines suitable for $3/4''$ to $2.1/4''$ (19 to 58 mm) tubes.

The **Macrol** series torque control pneumatic rolling machines are designed to be used at yards as well as to repair tube sheets directly on-site in chemical and petrochemical plants.

The **Macrol** series is produced in 5 different versions able to cover a wide range of tubes, guaranteeing to the main driving shaft an extreme sensitivity or power depending on the version chosen.

- In aluminium
- Light and heavy-duty
- Compact and handy
- Built-in adjustable torque control (with automatic stop at the set torque)
- Uniform tooling guaranteed
- Repeatability with $\pm 3\%$ tolerance
- Reversible
- Torque control independent from air pressure



Technical specifications		Macrol-1350	Macrol-750	Macrol-450	Macrol-200	Macrol-130
Speed	rpm (R.P.M)	1350	750	450	200	130
Min. torque	Nm (Ft Lb)	1,0 (0.7)	2,0 (1.4)	3,0 (2.1)	5,0 (3.6)	10,0 (7.3)
Max. torque	Nm (Ft Lb)	15,0 (11.0)	26,0 (19.2)	38,0 (28.0)	80,0 (59.0)	125,0 (92.2)
Inlet pressure	Bar (psi)	6,3 (92)	6,3 (92)	6,3 (92)	6,3 (92)	6,3 (92)
Air consumption	L/min (cfm)	840 (30.0)	840 (30.0)	840 (30.0)	840 (30.0)	840 (30.0)
Square drive <input checked="" type="checkbox"/>	mm (inches)	12 (0.47)	12 (0.47)	12 (0.47)	12 (0.47)	12 (0.47)
Air feeding threaded attachment	G / BSP	3/8" X 19	3/8" X 19	3/8" X 19	3/8" X 19	3/8" X 19
Air drain threaded attachment	G / BSP	1/2" X 14	1/2" X 14	1/2" X 14	1/2" X 14	1/2" X 14
> Tube max Ø (outside) - Ferrous	mm (inches)	19,0 (3/4")	25,4 (1")	31,8 (1.1/4")	44,4 (1.3/4")	57,1 (2.1/4")
> Tube max Ø (outside) - Nonferrous	mm (inches)	25,4 (1")	38,1 (1.1/2")	44,4 (1.3/4")	57,1 (2.1/4")	69,8 (2.3/4")
Adapter	Code	F/313 - 3/8"	F/313 - 3/8"	F/313 - 3/8"	F/313 - 1/2"	F/313 - 1/2"
Length A	mm (inches)	490 (19.3)	490 (19.3)	490 (19.3)	800 (31.5)	800 (31.5)
Width B	mm (inches)	330 (13.0)	330 (13.0)	330 (13.0)	365 (14.4)	365 (14.4)
Height/Ø C	mm (inches)	70 (2.8)	70 (2.8)	70 (2.8)	70 (2.8)	70 (2.8)
Weight	Kg (Lb)	7,0 (15.6)	7,0 (15.6)	7,0 (15.6)	8,6 (19.1)	8,6 (19.1)
Balancer recommended	Code	TPB 2	TPB 2	TPB 2	TPB 2/A	TPB 2/A

• All the values are measured with air pressure equal to **6,3 bar (90 psi)**

Macrol

Wide range of torque control pneumatic rolling machines suitable for 3/4" to 2.1/4" (19 to 58 mm) tubes.

Standard supply

- Transport case
- Macrol** pneumatic rolling machine
- Instruction manual
- F/313** quick release adapter
- Lubricator
- Air inlet flexible tube: Ø 23x13 mm L= 6 m
- Coiled tube for air drain: L= 2.5 m
- Set of blades for motor
- Service wrenches set

Air drain

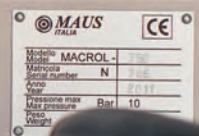
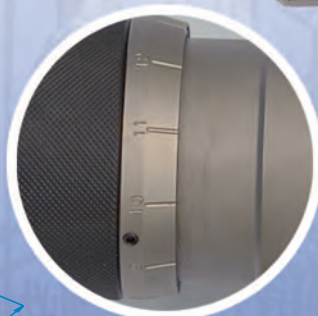
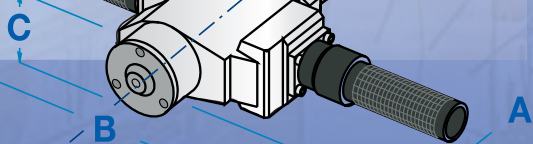
Torque adjustment ring nut

F/313 quick adapter

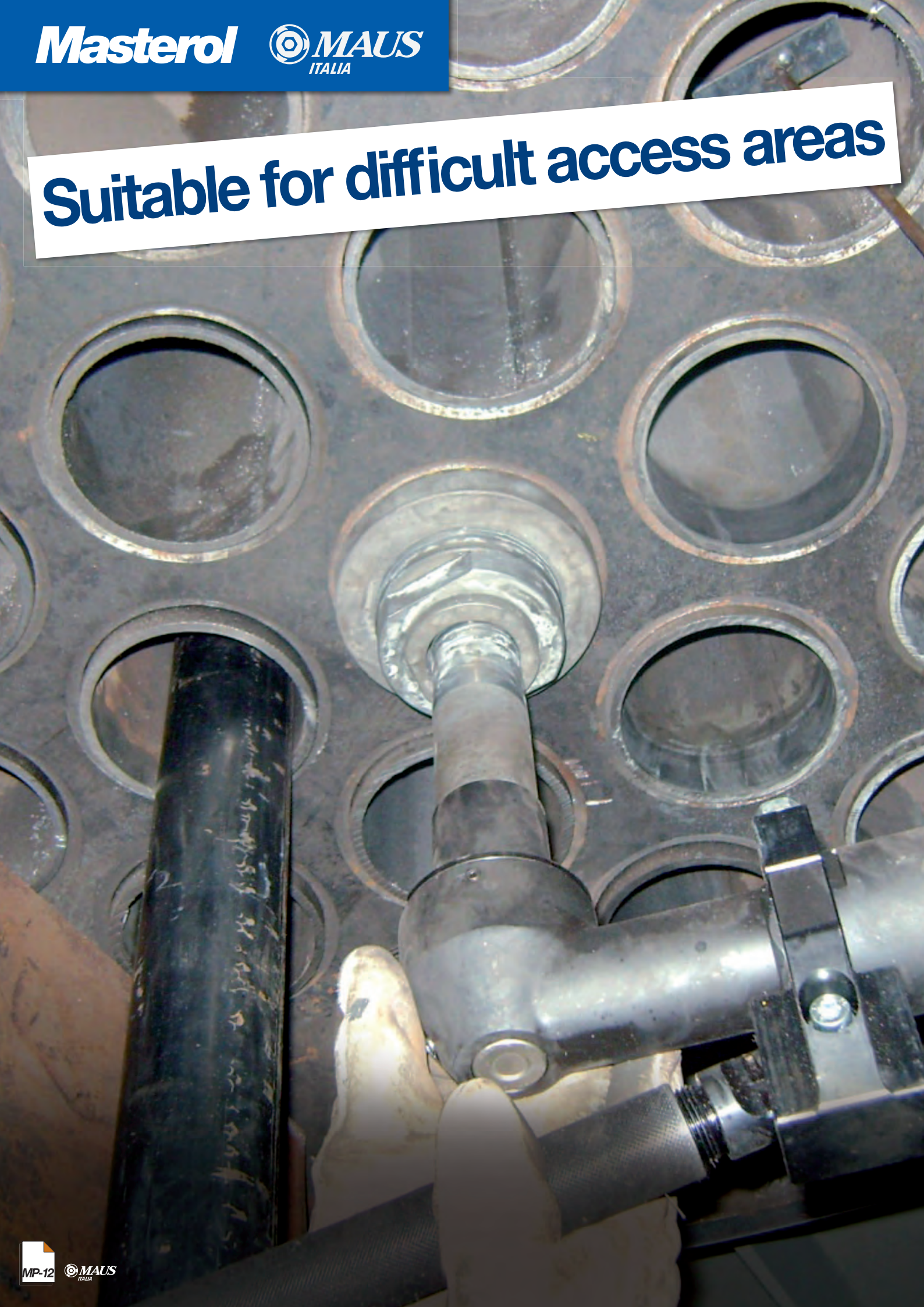
Tube expander

Air supply

Handle for rotation reverse



Suitable for difficult access areas



Masterol

Right angle torque control
pneumatic rolling machines
suitable for boiler tubes
up to 4" (101,6 mm)

The **Masterol** right angle torque control pneumatic rolling machines are particularly suitable to expand tubes in boilers.

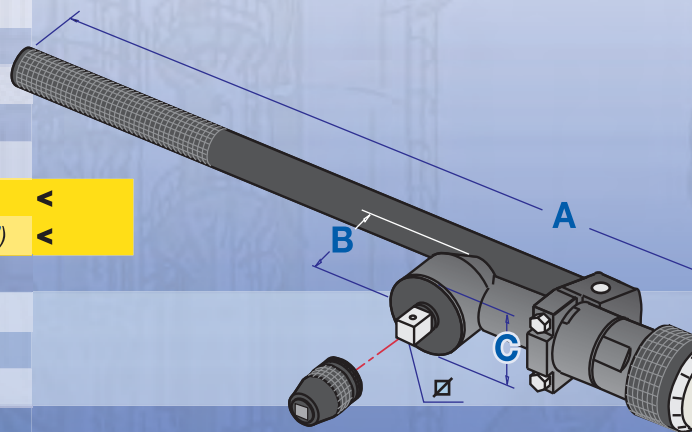
The 360° manoeuvrability enables to use them in hardly reachable areas.

The torque selection is made easier thanks to a graduated adjustment ring nut.

- In aluminium and steel
- Light and heavy-duty
- Compact and handy
- Built-in adjustable torque control (with automatic stop at the set torque)
- Uniform tooling guaranteed
- Repeatability with $\pm 3\%$ tolerance
- Reversible
- Torque control independent from air pressure



Technical specifications		Masterol-180	Masterol-90
Speed	rpm (R.P.M)	180	90
Min. torque	Nm (Ft Lb)	50,0 (37.0)	100,0 (74.0)
Max. torque	Nm (Ft Lb)	220,0 (162.3)	440,0 (325.6)
Inlet pressure	Bar (psi)	6,3 (92)	6,3 (92)
Air consumption	L/min (cfm)	2000 (70.6)	2000 (70.6)
Square drive <input checked="" type="checkbox"/>	mm (inches)	18 (0.70)	18 (0.70)
Air feeding threaded attachment	G / BSP	1/2" X 14	1/2" X 14
Air drain threaded attachment	G / BSP	1" X 11	1" X 11
> Tube max Ø (outside) - Ferrous	mm (inches)	57,1 (2.1/4")	101,6 (4")
> Tube max Ø (outside) - Nonferrous	mm (inches)	69,8 (2.3/4")	114,5 (4.1/2")
Adapter	Code	F/316 - 3/4"	F/316 - 3/4"
Length	A	mm (inches)	570 (22.5)
Width	B	mm (inches)	96 (3.8)
Height/Ø	C	mm (inches)	76 (3.0)
Weight		Kg (Lb)	9,5 (21.1)
Balancer recommended	Code	TPB 2/A	TPB 2/A



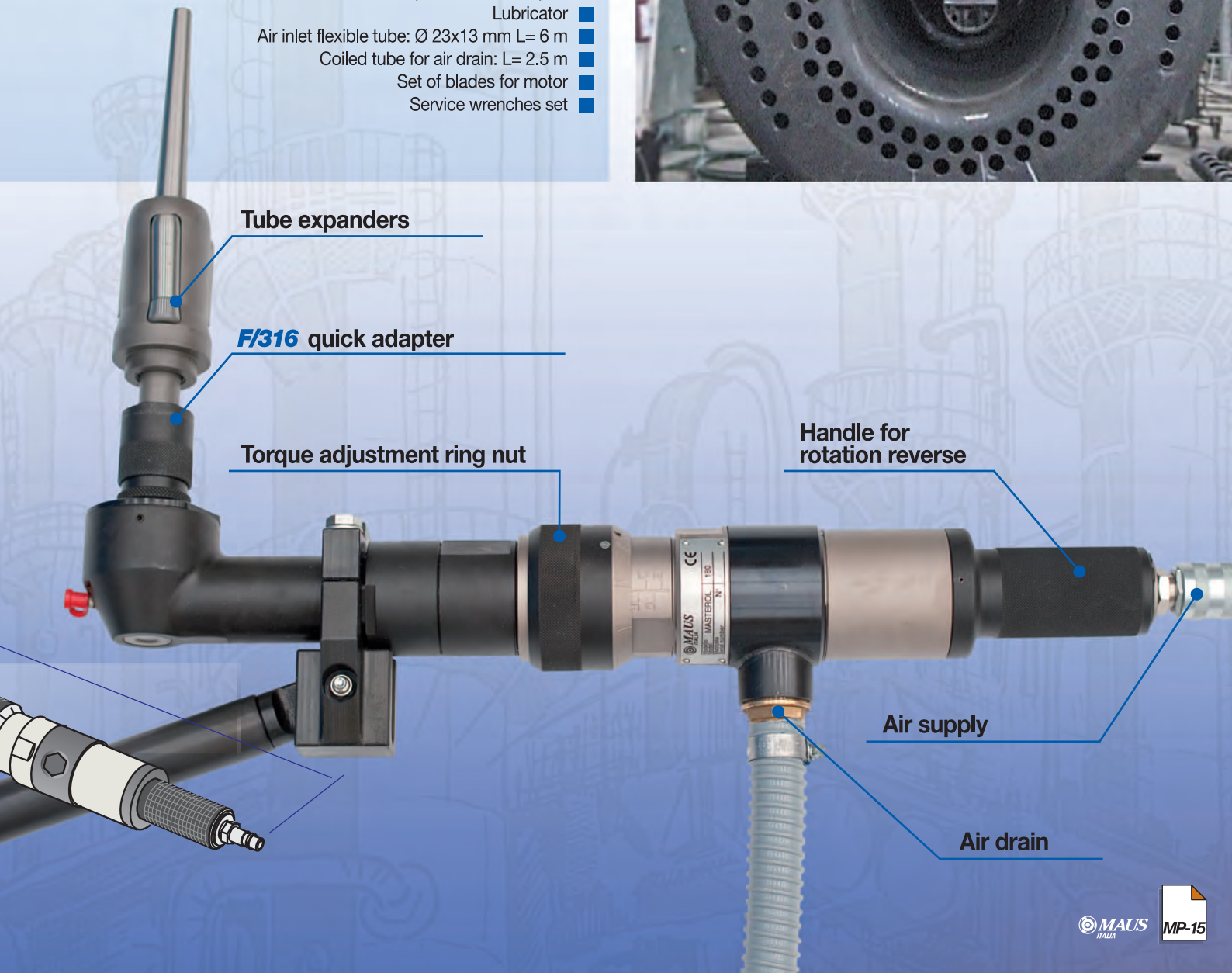
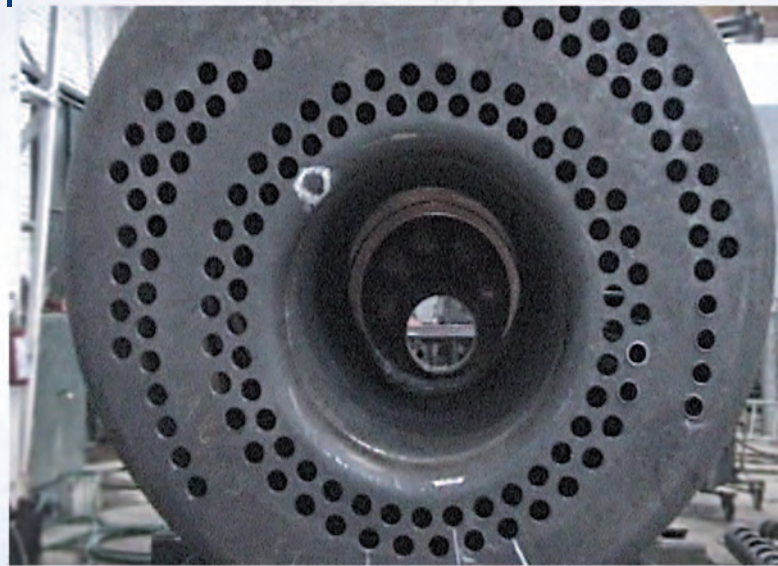
• All the values are measured with air pressure equal to 6,3 bar (90 psi)

Masterol

Right angle torque control
pneumatic rolling machines
suitable for boiler tubes
up to 4" (101,6 mm)

Standard supply

- Transport case
- Masterol pneumatic rolling machine
- Instruction manual
- F/316 quick release adapter
- Lubricator
- Air inlet flexible tube: Ø 23x13 mm L= 6 m
- Coiled tube for air drain: L= 2.5 m
- Set of blades for motor
- Service wrenches set



Tube expanders

F/316 quick adapter

Torque adjustment ring nut

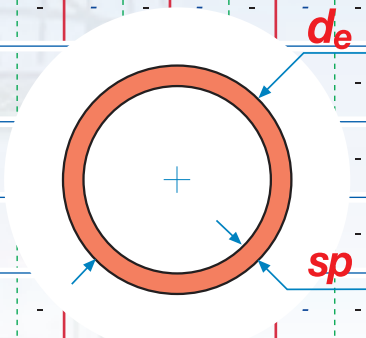
Handle for rotation reverse

Air supply

Air drain

BWG

de	00		0		1		2		3		4		5		6		7		8		9		10		11			
	BWG		BWG		BWG		BWG		BWG		BWG		BWG		BWG		BWG		BWG		BWG		BWG		BWG			
“ mm	“	mm	“	mm	“	mm	“	mm	“	mm	“	mm	“	mm	“	mm	“	mm	“	mm	“	mm	“	mm	“	mm	“	mm
sp →	0.380	9,65	0.340	8,64	0.300	7,62	0.284	7,21	0.259	6,58	0.238	6,05	0.220	5,59	0.203	5,16	0.180	4,57	0.165	4,19	0.148	3,76	0.134	3,40	0.120	3,05		
1/4" (6,3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/8" (9,5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1/2" (12,7)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5/8" (15,9)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/4" (19,0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.482	12,2	0.510	12,9		
7/8" (22,2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.607	15,4	0.635	16,1		
1" (25,4)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.670	17,0	0.704	17,9	0.732	18,6	0.760	19,3		
1.1/4" (31,8)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.890	22,6	0.920	23,4	0.954	24,3	0.982	25,0	1.010	25,7		
1.1/2" (38,1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.140	28,9	1.170	29,7	1.204	30,6	1.232	31,3	1.260	32,0		
1.3/4" (44,4)	-	-	-	-	-	-	-	-	-	-	-	-	1.310	33,2	1.344	34,1	1.390	35,2	1.420	36,0	1.454	36,9	1.482	37,6	1.510	38,3		
2" (50,8)	-	-	-	-	-	-	-	-	1.524	38,7	1.560	39,6	1.594	40,5	1.640	41,6	1.670	42,4	1.704	43,3	1.732	44,0	1.760	44,7				
2.1/4" (57,1)	1.490	37,8	1.570	39,8	1.650	41,8	1.682	42,7	1.732	43,9	1.774	45,0	1.810	45,9	1.844	46,8	1.890	47,9	1.920	48,7	1.954	49,6	1.982	50,3	2.010	51,0		
2.1/2" (63,5)	1.740	44,2	1.820	46,2	1.900	48,2	1.932	49,1	1.982	50,3	2.024	51,4	2.060	52,3	2.094	53,2	2.140	54,3	2.170	55,1	2.204	56,0	2.232	56,7	2.260	57,4		
2.3/4" (69,8)	1.990	50,5	2.070	52,5	2.150	54,5	2.182	55,3	2.232	56,6	2.274	57,7	2.310	58,6	2.344	59,5	2.390	60,6	2.420	61,4	2.454	62,3	2.482	63,0	2.510	63,7		
3" (76,2)	2.240	56,9	2.320	58,9	2.400	60,9	2.432	61,8	2.482	63,0	2.524	64,1	2.560	65,0	2.594	65,9	2.640	67,0	2.670	67,8	2.704	68,7	2.732	69,4	2.760	70,1		
3.1/4" (82,6)	2.490	63,3	2.570	65,3	2.650	67,3	2.682	68,2	2.732	69,4	2.774	70,5	2.810	71,4	2.844	72,3	2.890	73,4	2.920	74,2	2.954	75,1	2.982	75,8	3.010	76,5		
3.1/2" (88,9)	2.740	69,6	2.820	71,6	2.900	73,6	2.932	74,5	2.982	75,7	3.024	76,8	3.060	77,7	3.094	78,6	3.140	79,7	3.170	80,5	3.204	81,4	3.232	82,1	3.260	82,8		
3.3/4" (95,2)	2.990	75,9	3.070	77,9	3.150	79,9	3.182	80,8	3.232	82,0	3.274	83,1	3.310	84,0	3.344	84,9	3.390	86,0	3.420	86,8	3.454	87,7	3.482	88,4	3.510	89,1		
4" (101,6)	3.240	82,3	3.320	84,3	3.400	86,3	3.432	87,2	3.482	88,4	3.524	89,5	3.560	90,4	3.594	91,3	3.640	92,4	3.670	93,2	3.704	94,1	3.732	94,8	3.760	95,5		
4.1/4" (108,0)	3.490	88,7	3.570	90,7	3.650	92,7	3.682	93,6	3.732	94,8	3.774	95,9	3.810	96,8	3.844	97,7	3.890	98,8	3.920	99,6	3.954	100,5	3.982	101,2	4.010	101,9		
4.1/2" (114,3)	3.740	95,0	3.820	97,0	3.900	99,0	3.932	99,9	3.982	101,1	4.024	102,2	4.060	103,1	4.094	104,0	4.140	105,1	4.170	105,9	4.204	106,8	4.232	107,5	4.260	108,2		





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