



## APS

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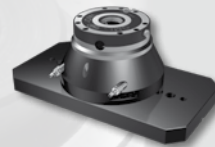
## CLAMPING PINS

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## PLATES

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## PLATES FOR 5 AXIS

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## ANGLE PLATE

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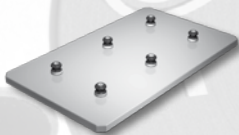
## TOMBSTONES

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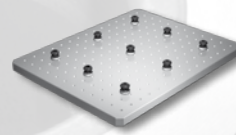
## CRANKWEBS

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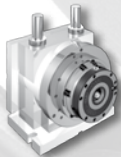
## STEEL SMOOTH PLATES

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## STEEL PLATES WITH GRID

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## FLANGES FOR INDEXING TABLES "TOUCHDEX"

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## FLANGES FOR INDEXING TABLES "MODULAR"

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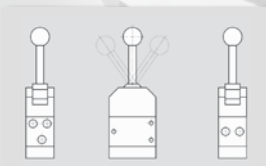
## COMBIDEX APS

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## INTERFACE PLATES

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## ACCESSORIES

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# AUTOMATIC POSITIONING SYSTEM

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## What is aps?

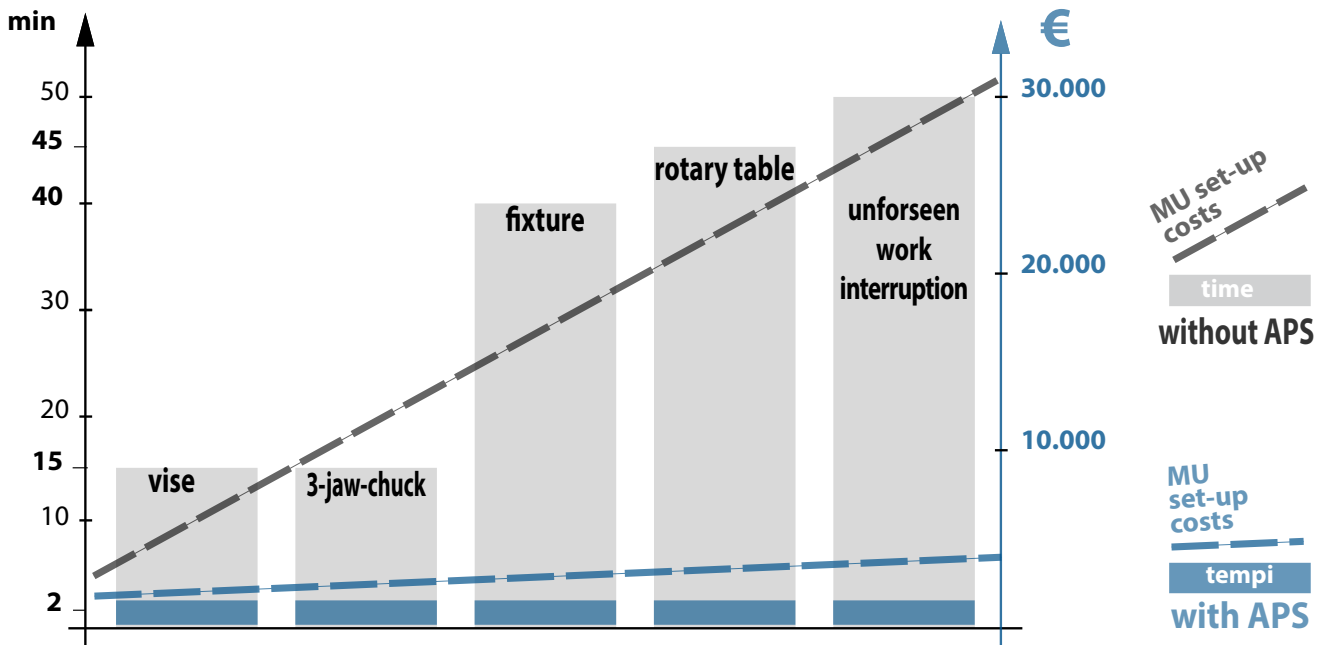
APS (Automatic Positioning System) is a universal connection between the machine tool, the clamping device and/or the workpiece. The flexibility of APS allows both positioning and clamping in one operation.

## How does it work?

APS uses oiled compressed air (6 BAR-85 psi) for unlocking, it uses spring force for clamping. No compressed air is required in the locked condition. Attach the clamping pins (A;B;C) on the clamping devices or on the workpiece and "it's done"!!! Positioning and clamping in one operation with repeatability accuracy < 0,005 mm (0.0002").

## What are the advantages for your company?

Your set-up times will be reduced by 90 %.  
APS offers you greater flexibility in set-up and an increase in productivity resulting in a short pay-back time.

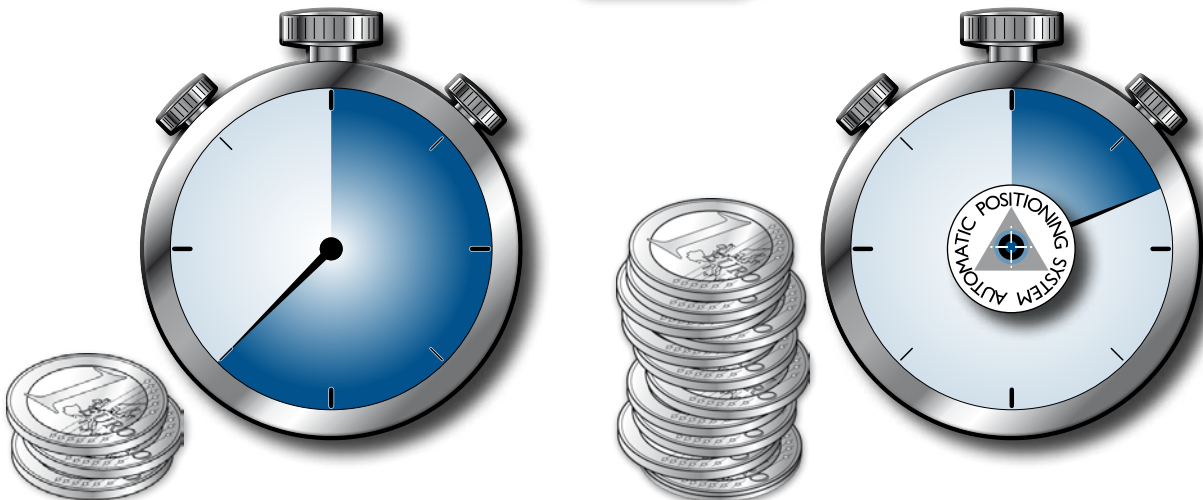


**WITHOUT APS**

**WITH APS**

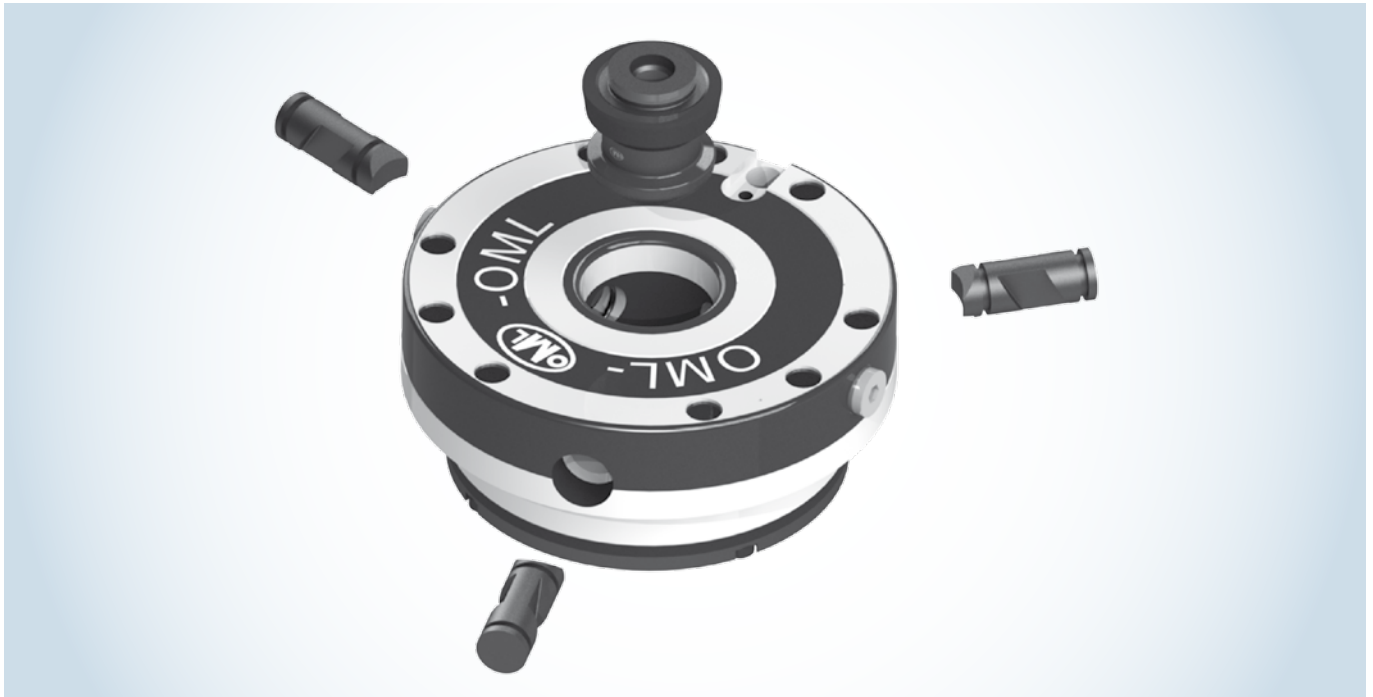
**MACHINE TOOL STOP**

**PRODUCTION**





# AUTOMATIC POSITIONING SYSTEM



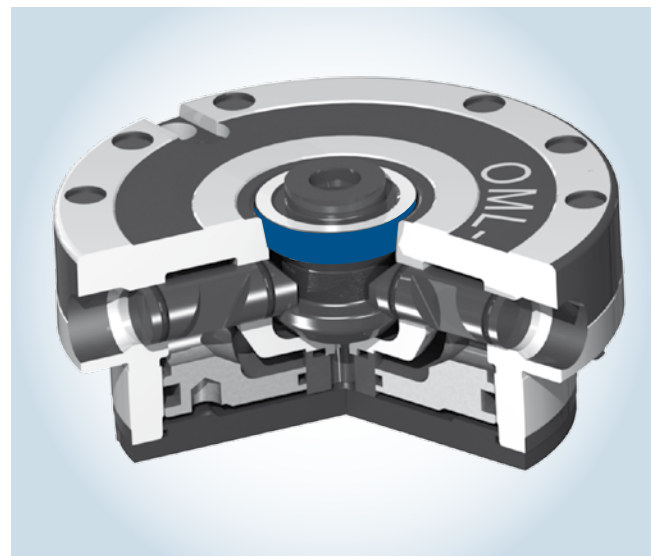
## CLAMPING SYSTEM WITH 3 JAWS AT 120°

APS is the only one clamping system ZERO POINT with 3 jaws at 120° and thanks to special treatments antifriction and anticorrosion of the pins and the clamping jaws (already preliminarily treated to 62 HRC), further improves its performance.



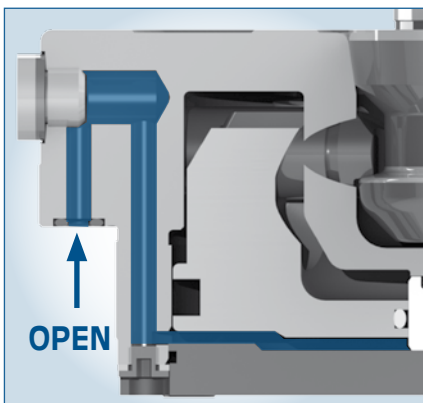
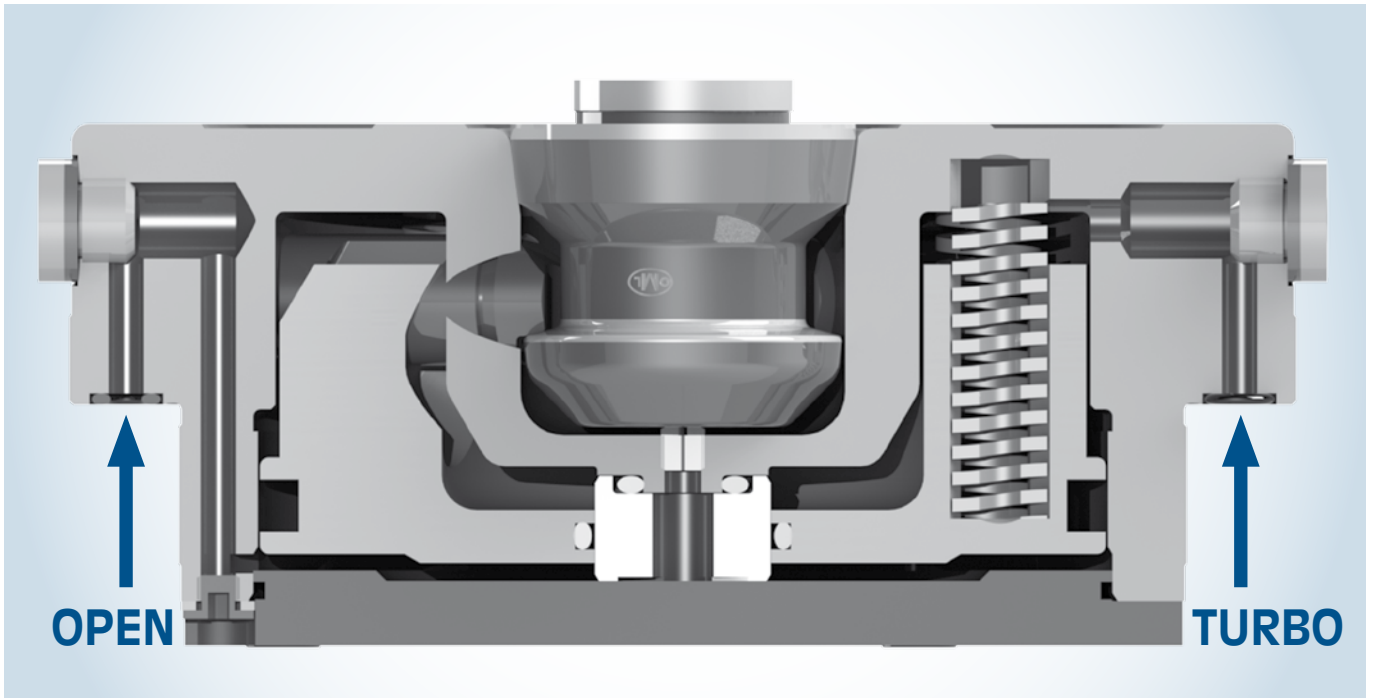
### MAXIMUM RIGIDITY!

- Monolithic piston with inclined planes
- Jaws with double inclined plane which generates the "PULL DOWN" effect

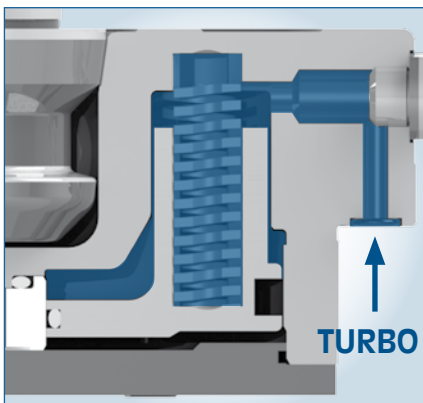


### MAXIMUM ACCURACY!

Maximum accuracy of the tapered coupling between the pin and the module

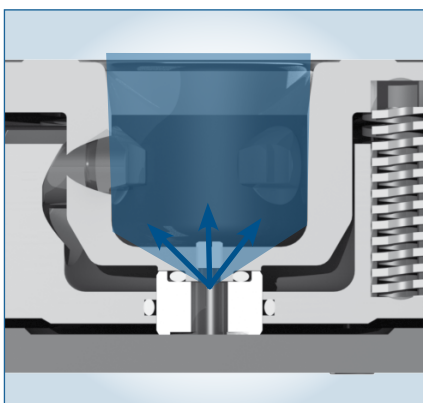


**UNLOCKING FUNCTION at 6 bar**



**TURBO FUNCTION**

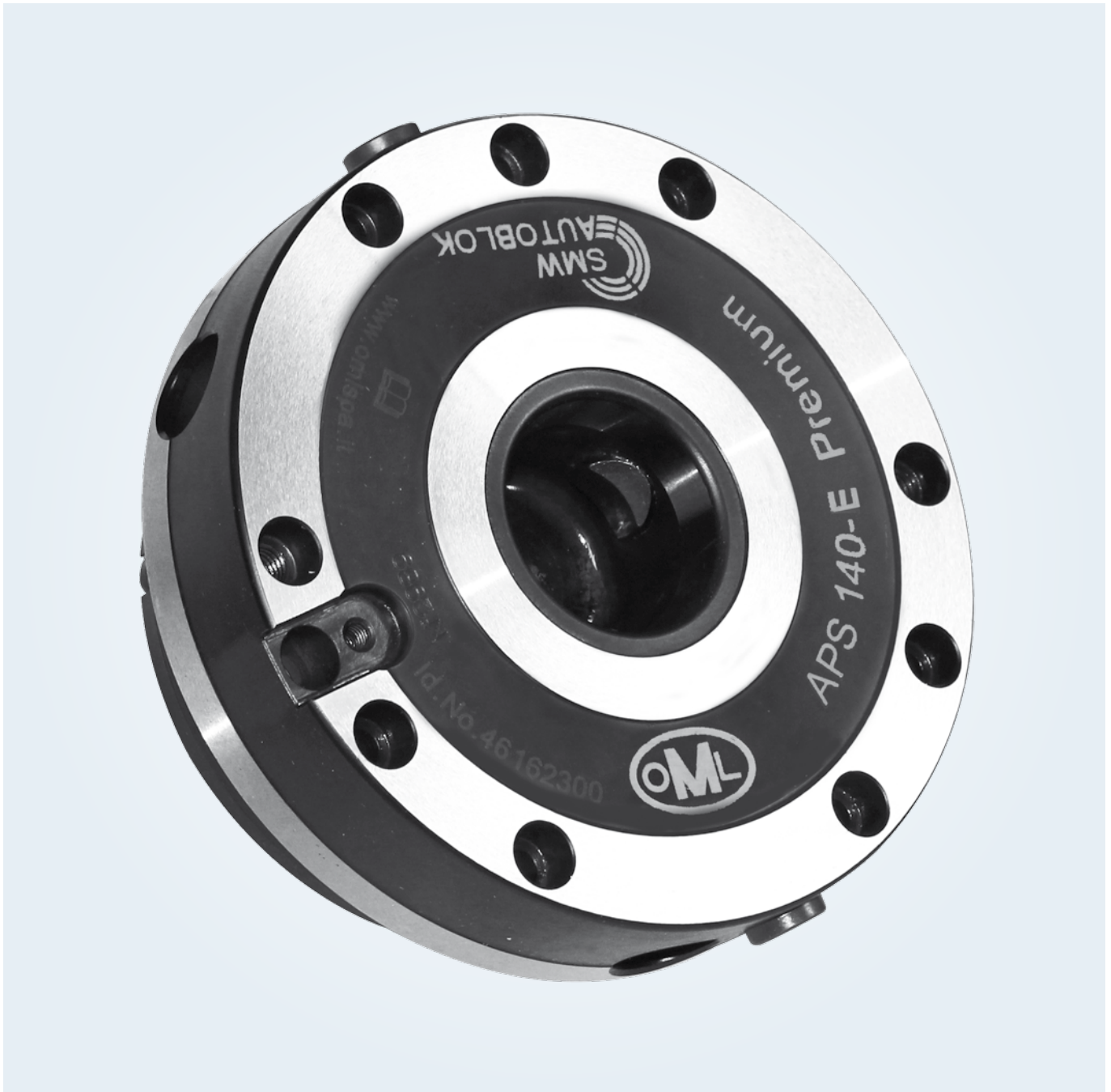
The Turbo function is always integrated in APS PREMIUM modules. Turbo is the function by means of which the compressed air increases the clamping force applied by the springs (12,000 N) until reaching the "PULL DOWN" clamping force of 30,000 N.



**AUTOMATIC CLEANING FUNCTION (APS PREMIUM)**



# AUTOMATIC POSITIONING SYSTEM



## CHECK LIST APS

Type	3 jaws	2 jaws	turbo	Pull-down force N	Antirotation key	Automatic cleaning function	APC
APS 100 E PREMIUM	-	•	•	15000	•	•	•
APS 100 E BASIC	-	•	•	15000	-	-	-
APS 140 E PREMIUM	•	-	•	30000	•	•	•
APS 140 E PREMIUM LIGHT	•	-	•	30000	-	•	-
APS 140 E PREMIUM INOX	•	-	•	30000	•	•	•
APS 140 I PREMIUM	•	-	•	30000	•	•	•
APS 140 E BASIC	-	•	-	12000	-	-	-
APS 190 E PREMIUM	•	-	•	45000	•	•	•



## Clamping pins

Positioning and clamping of the devices and/or of the workpiece are achieved through the clamping pins.

**A**  
CENTERING PIN



Type **A** is used for centering and clamping.

**B**  
REFERENCE PIN



Type **B** is used for reference and clamping.

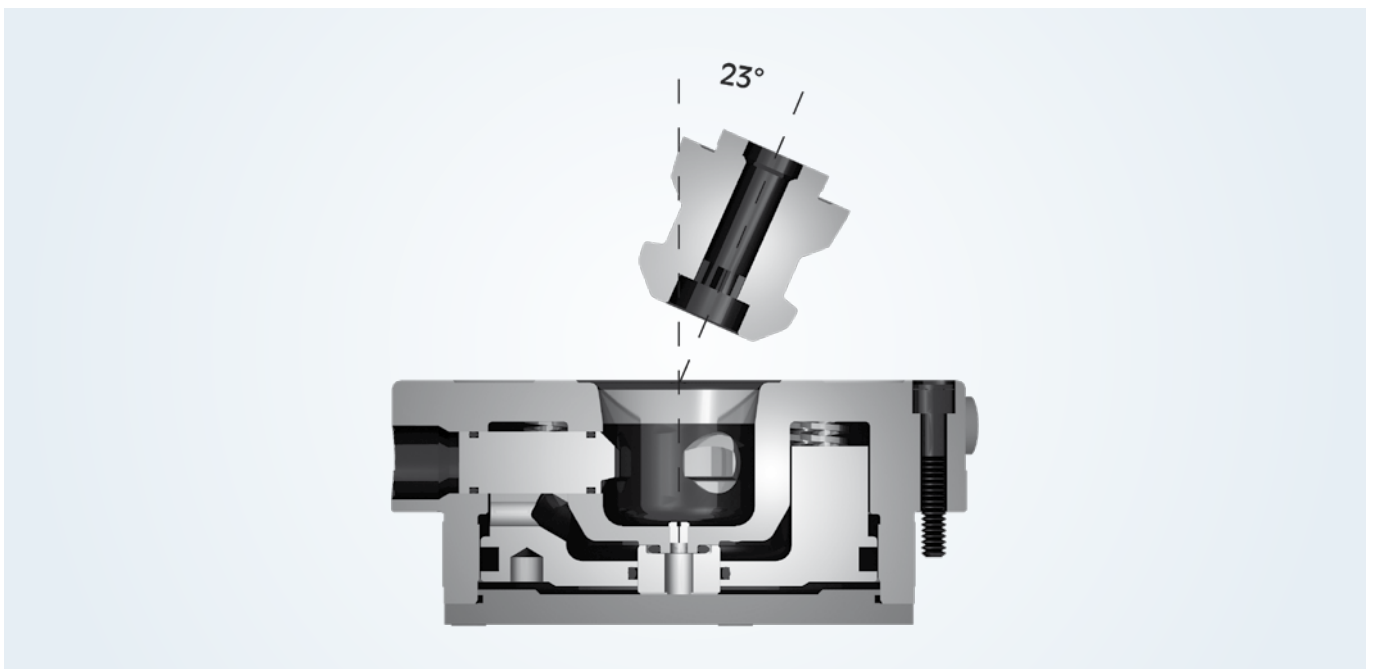
**C**  
PULL-DOWN PIN  $\pm 0,05$  mm



Type **C** only for clamping.

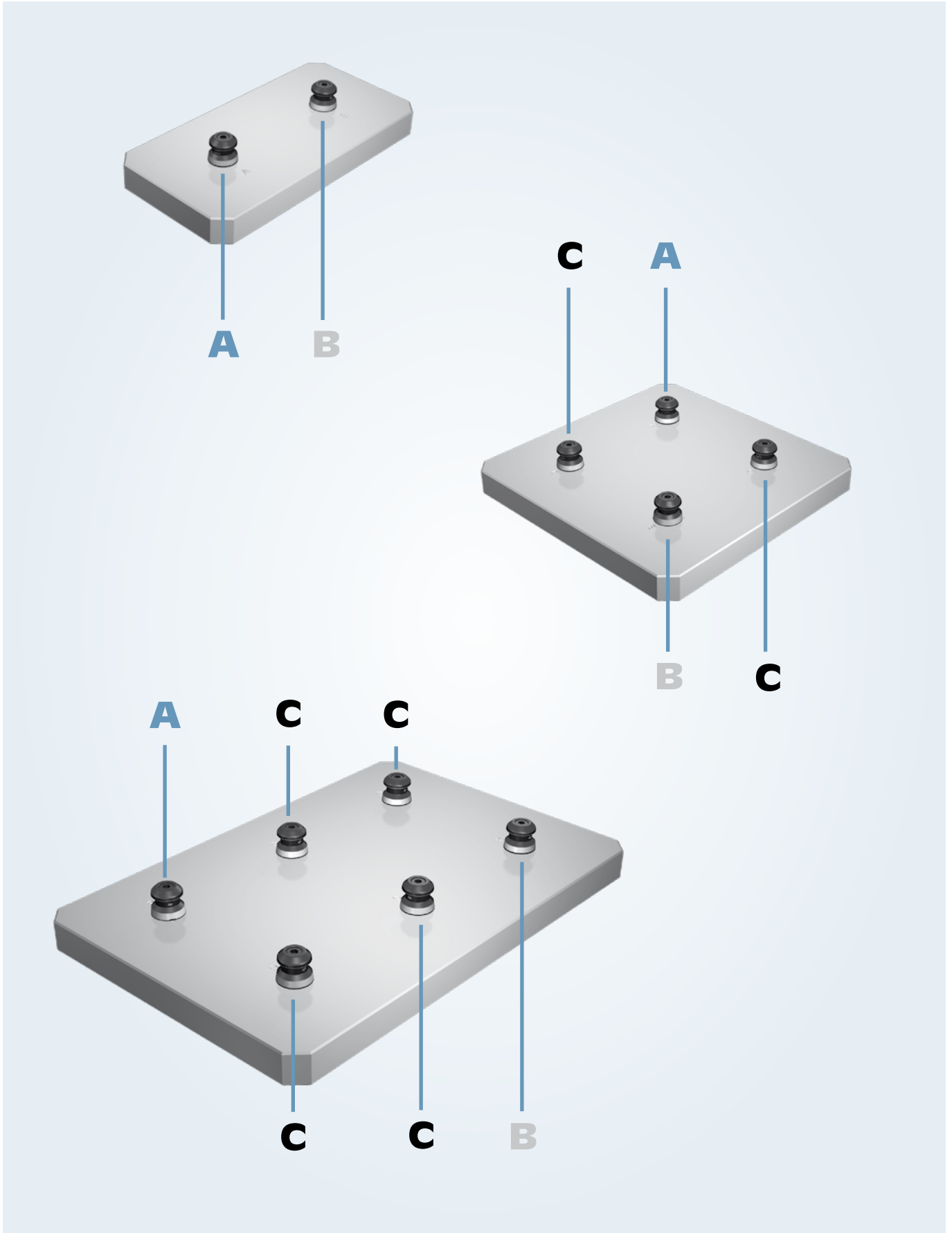
**HOLDING FORCE (N) with screws DIN EN ISO 4762 - 12.9**

M6	M8	M10	M12	M16
15.000	25.000	35.000	50.000	75.000





## Clamping pins



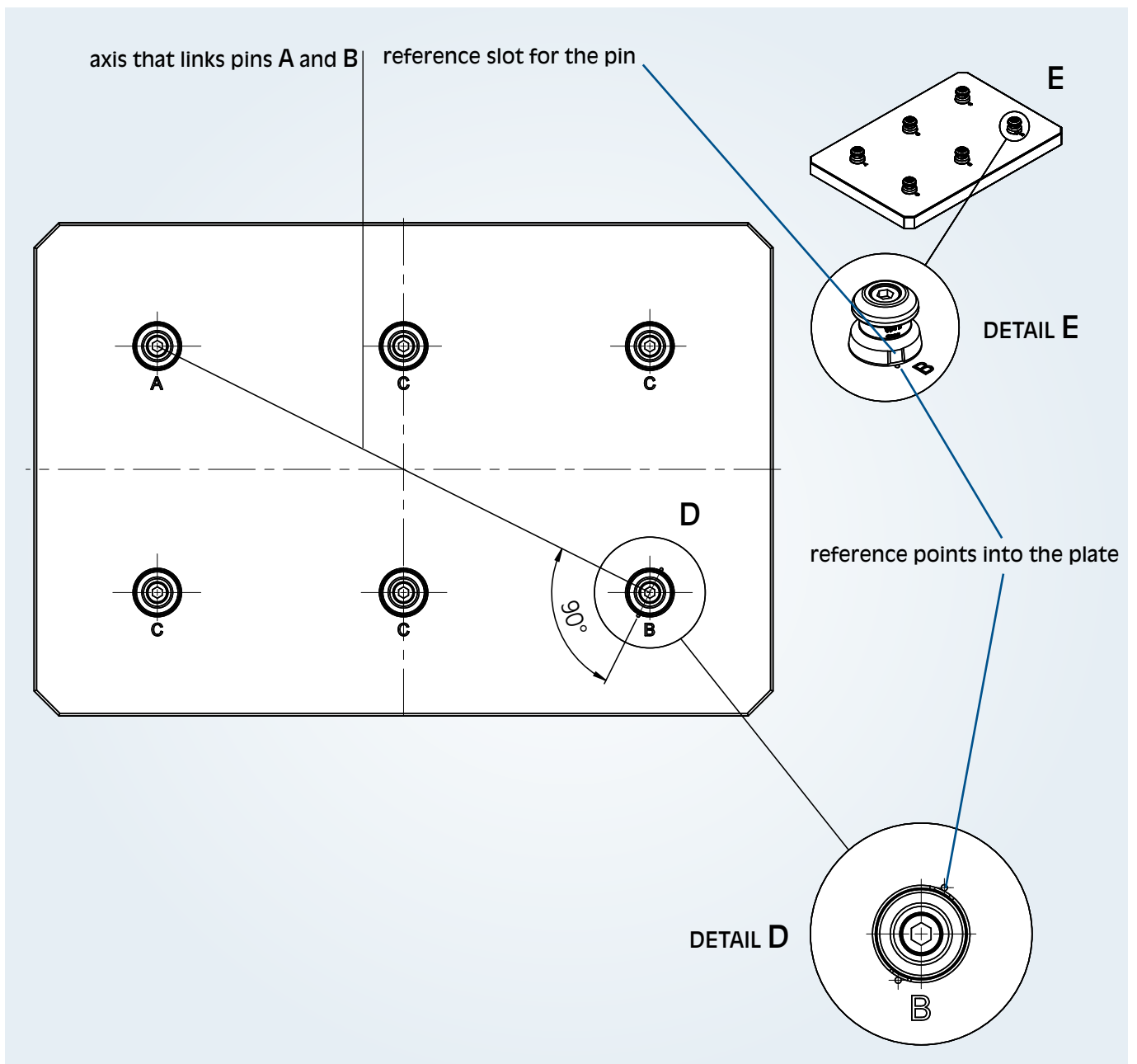




## Clamping pins

### ORIENTATION PIN TYPE B

The reference slot of the pin type B must be oriented at 90° compared to the axis that links pins A and B (detail D = reference slot for the pin aligned with the reference points into the plate)



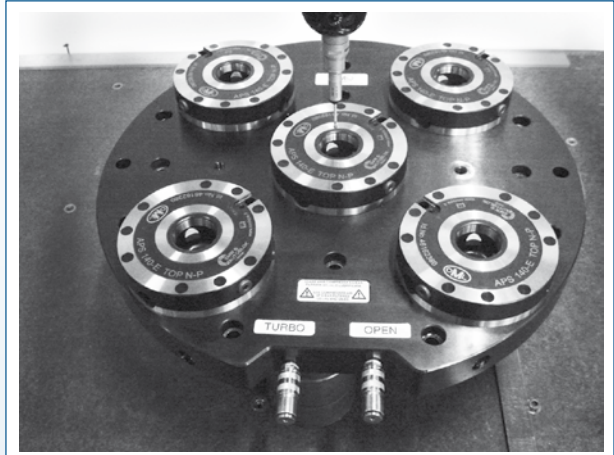
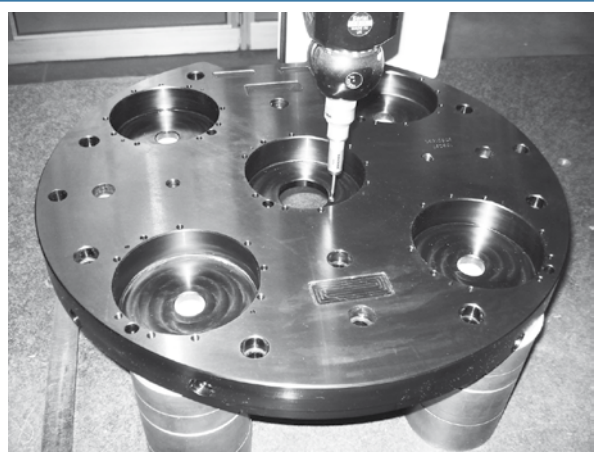
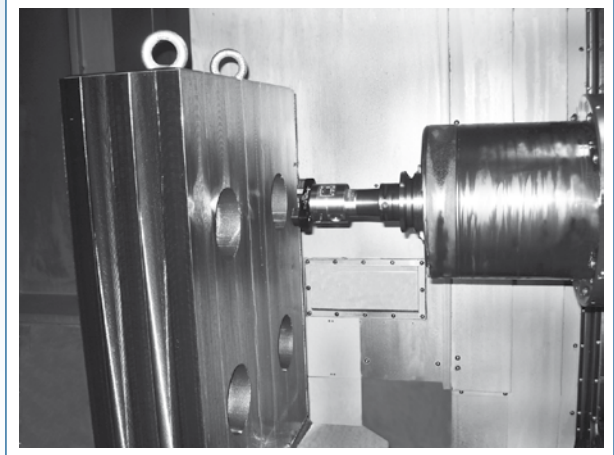
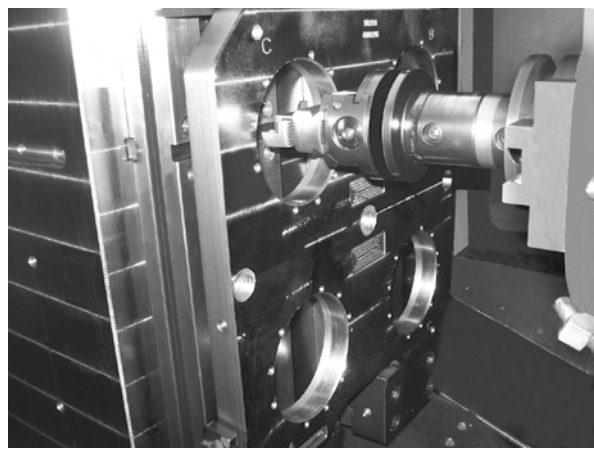


# AUTOMATIC POSITIONING SYSTEM

## Plates and Tombstones for APS

The production of plates and tombstones for APS systems is performed on machines of high precision by highly qualified personnel and the control of the finished piece is done prior to installation and after installation of the modules APS.

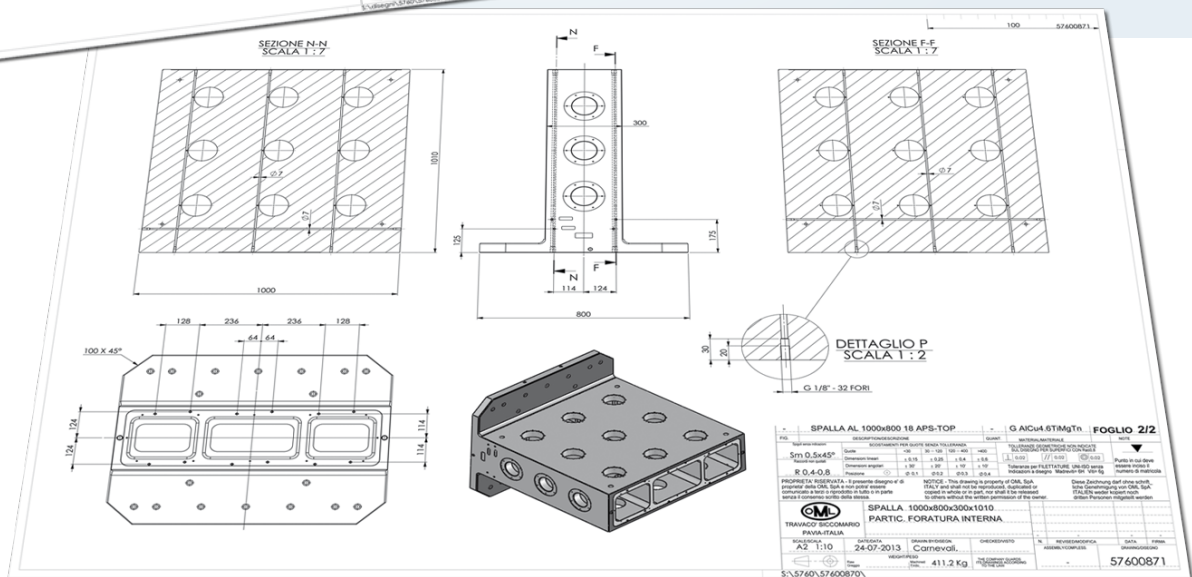
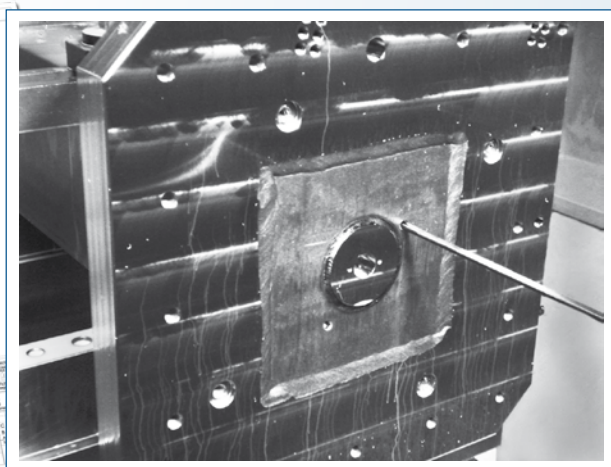
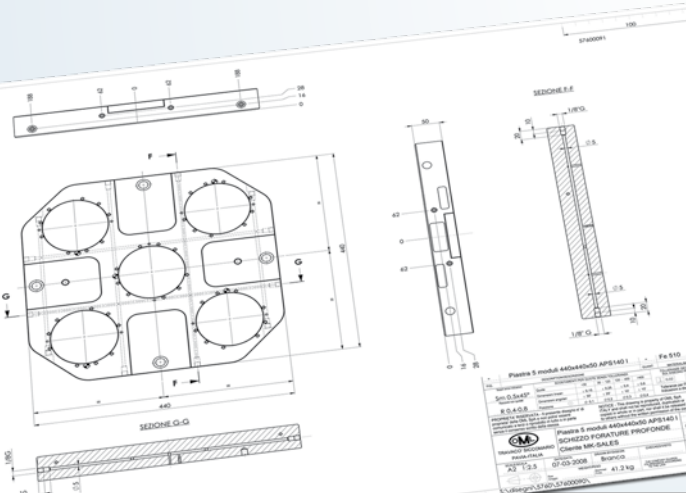
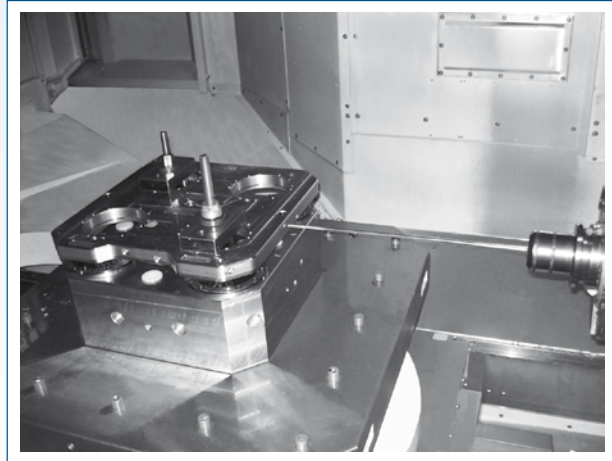
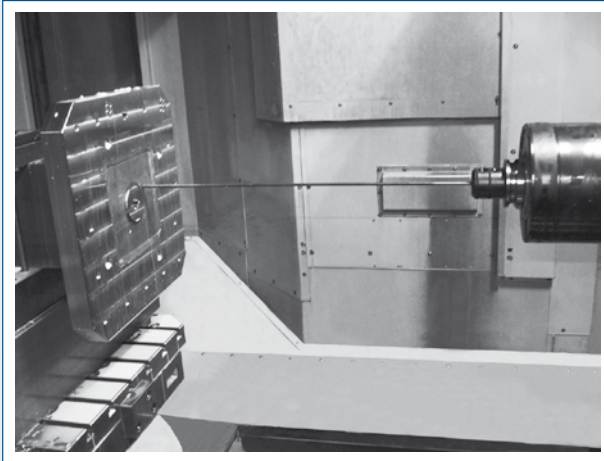
This allows us to have total control of the finished piece





## Gundrill holes

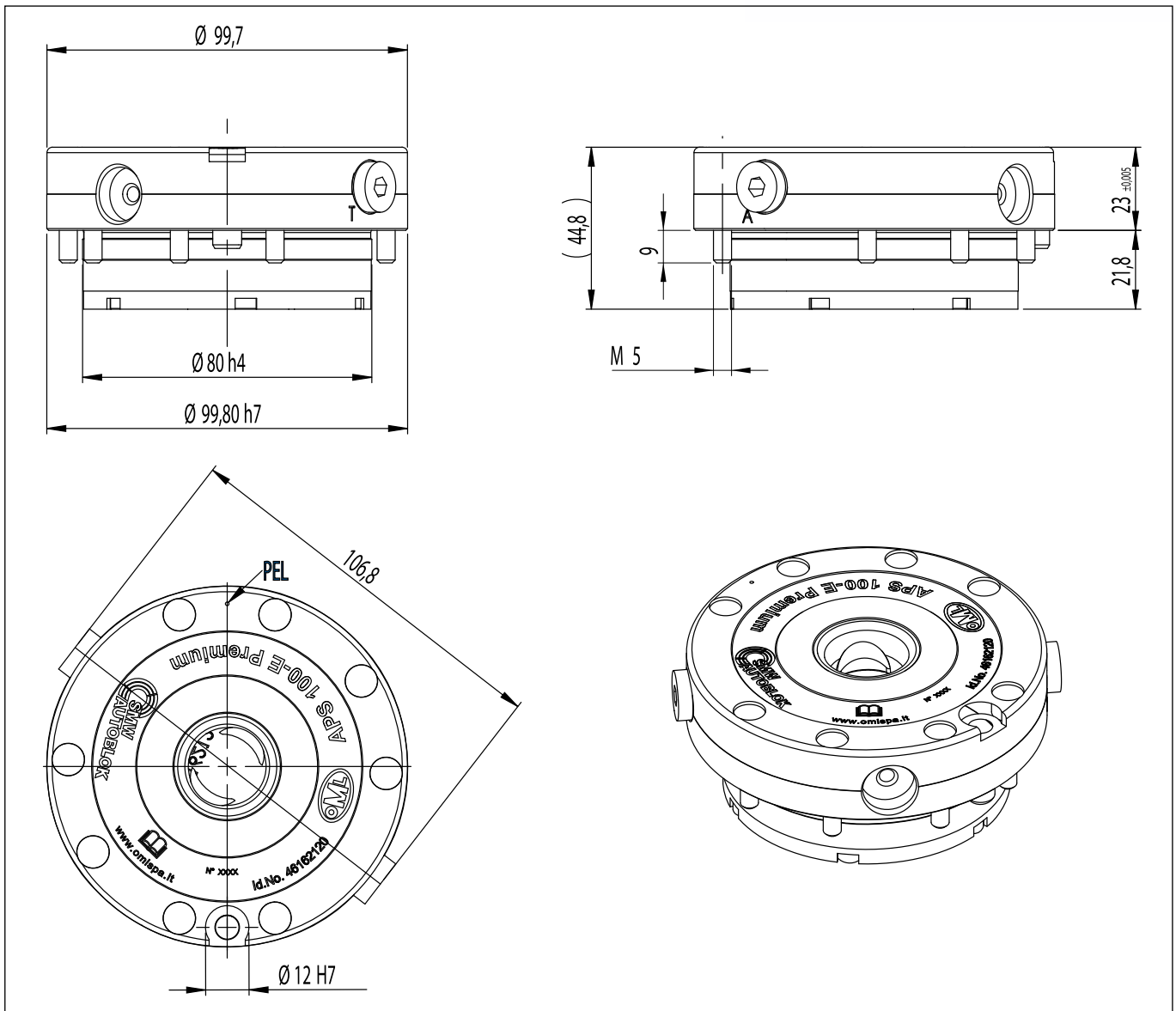
In all the plates and the cubes produced by OML the connection of the modules APS for the compressed air (OPEN / TURBO) is performed by means of gun-drill holes. The method allows to NOT have plastic tubes that over time could break and still no external dimensions or maintenance in the case of rigid tubes.



# APS-100 E "PREMIUM"

## "PREMIUM" mounting module

with turbo effect



code	pull down force(**) N	holding force(*) M6/M8 N	unlocking pressure bar	repeatability mm	weight kg
<b>46 16 21 20</b>	15.000	15.000/25.000	6	< 0,005	1,9

(\*) with screws DIN EN ISO 4762 - 12.9

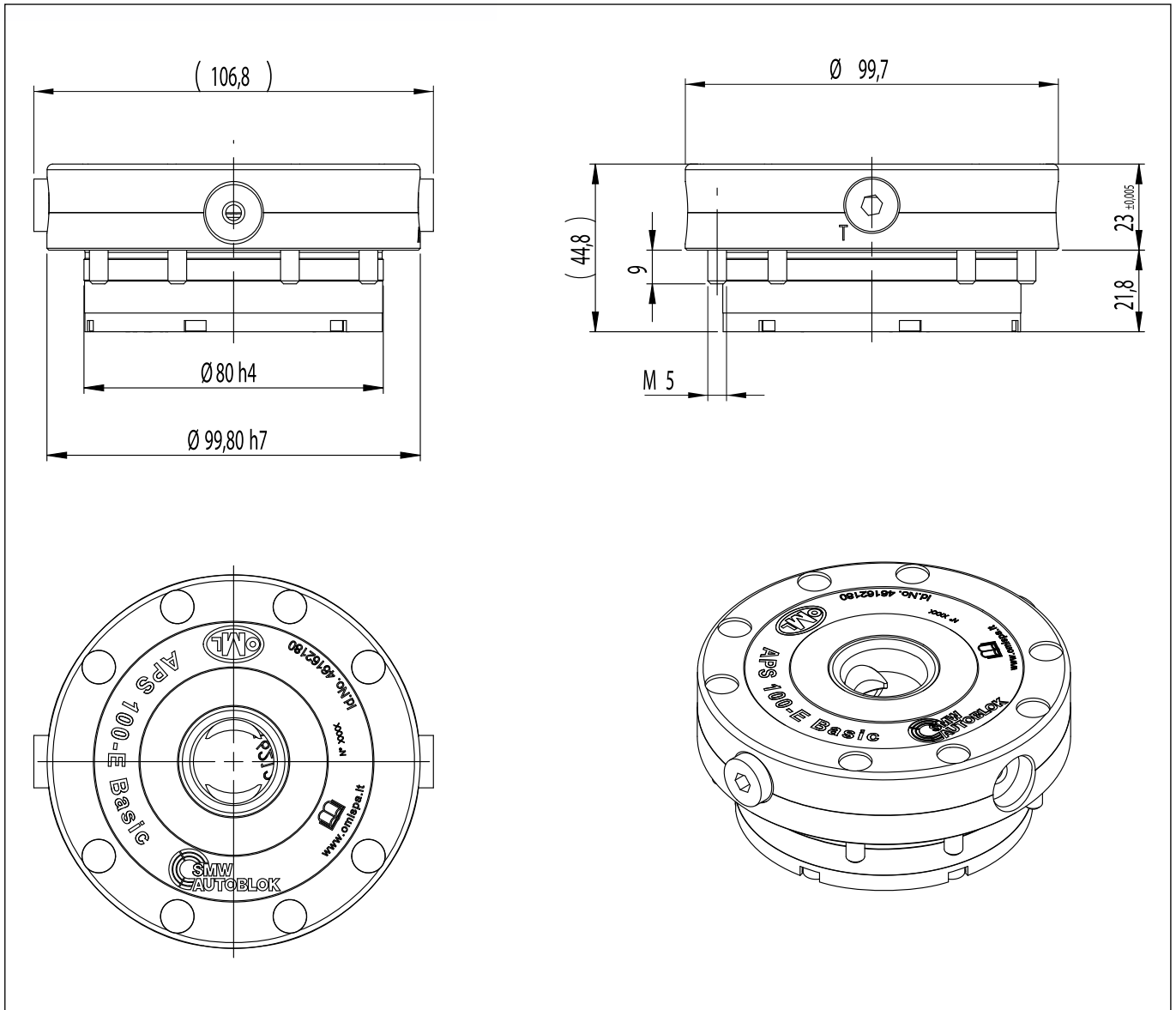
(\*\*) with "turbo effect"

# "BASIC" mounting module

# APS-100 E "BASIC"

0

with turbo effect



code	pull down force(**) N	holding force(*) M6/M8 N	unlocking pressure bar	repeatability mm	weight kg
<b>46 16 21 80</b>	15.000	15.000/25.000	6	< 0,005	1,9

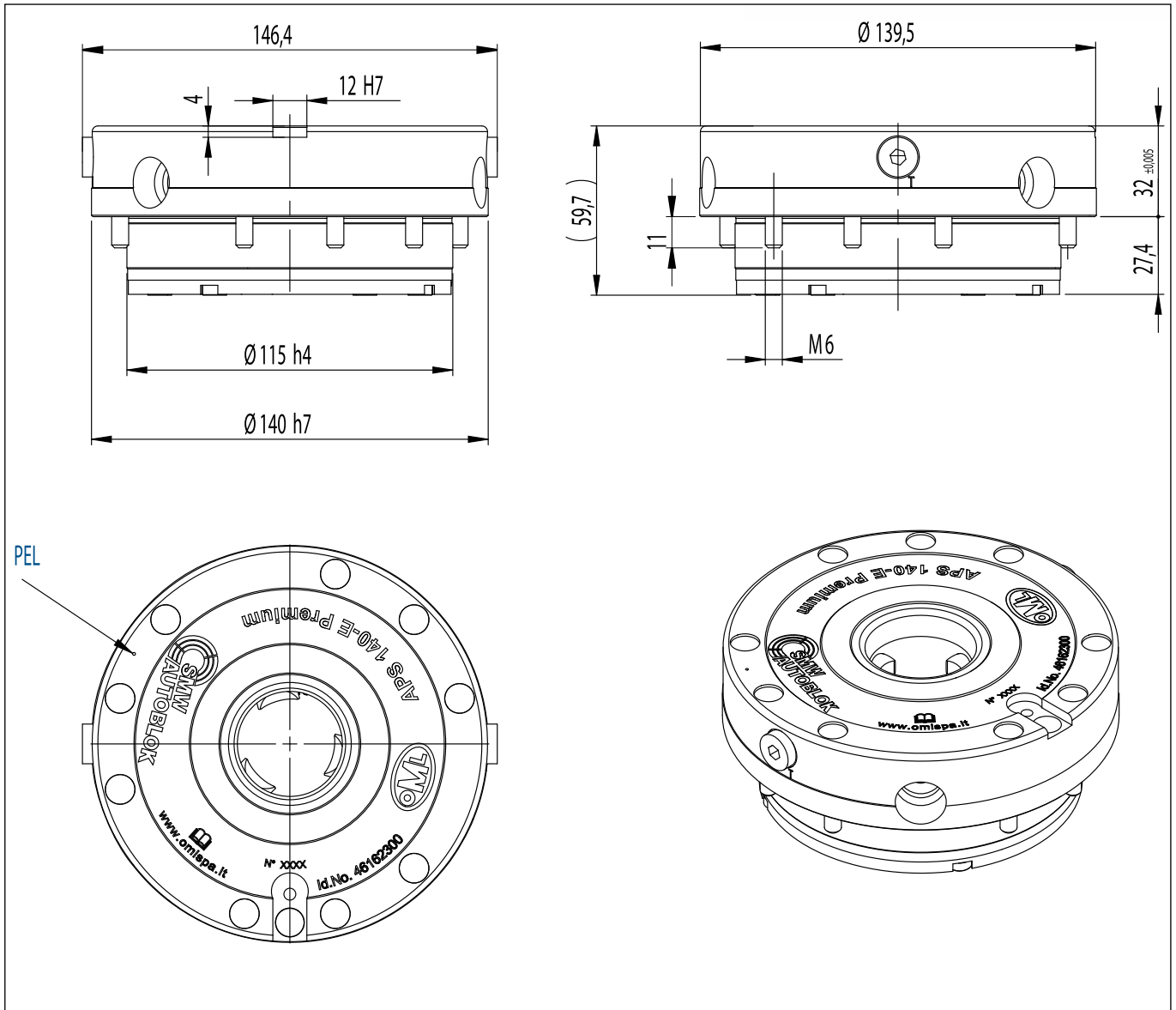
(\*) with screws DIN EN ISO 4762 - 12.9

(\*\*) with "turbo effect"

# APS-140 E "PREMIUM"

## "PREMIUM" mounting module

with turbo effect



code	pull down force <sup>(**)</sup> N	holding force <sup>(*)</sup> M10/M12/M16 N	unlocking pressure bar	repeatability mm	weight kg
<b>46 16 23 00</b>	30.000	35.000/50.000/75.000	6	< 0,005	4,5

(\*) with screws DIN EN ISO 4762 - 12.9

(\*\*) with "turbo effect"

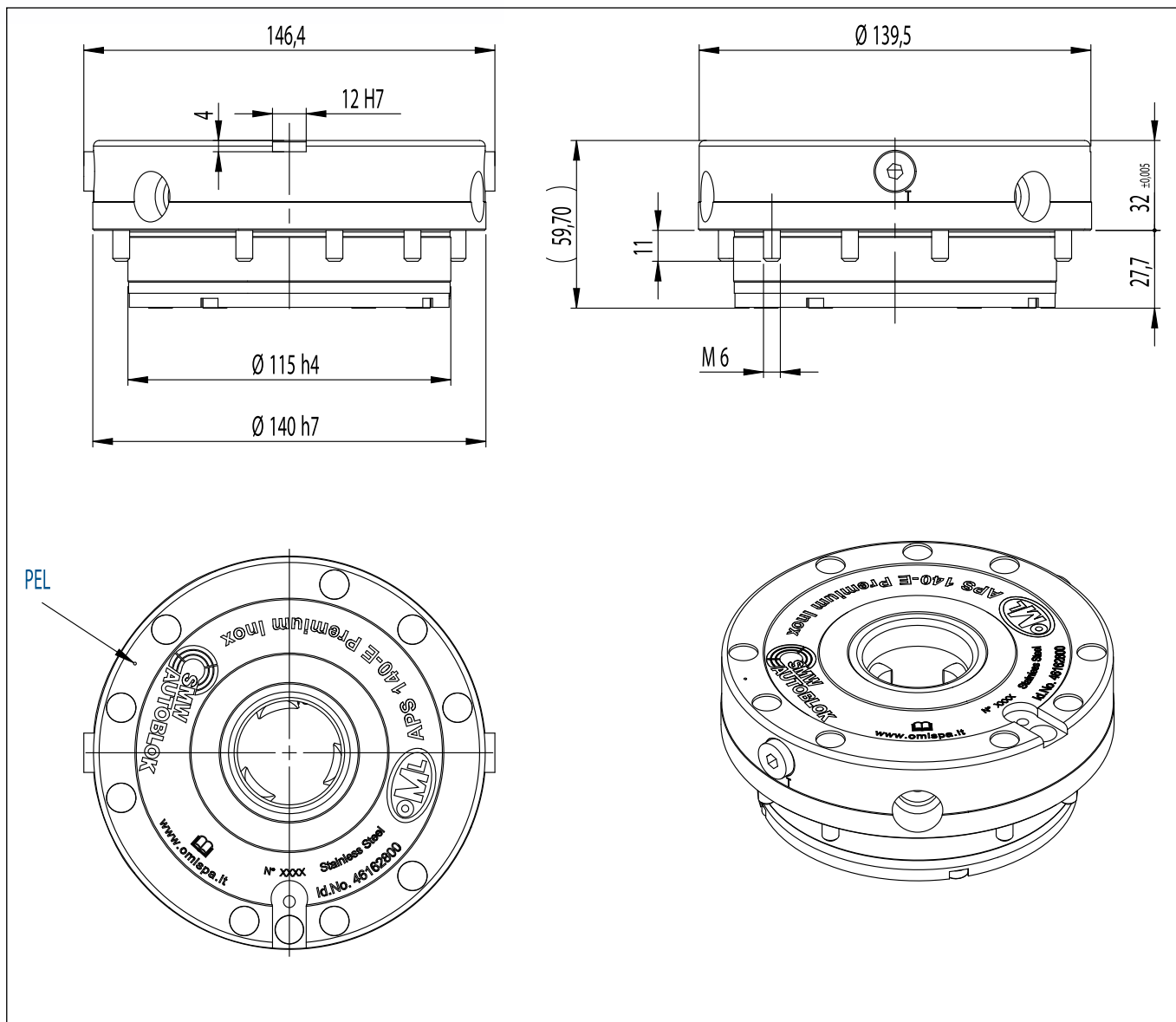
**“PREMIUM”**  
stainless steel mounting module

**APS-140 E**  
“PREMIUM INOX”

0

with turbo effect

**New**



code	pull down force(**) N	holding force(*) M10/M12/M16 N	unlocking pressure bar	repeatability mm	weight kg
<b>46 16 28 00</b>	30.000	35.000/50.000/75.000	6	< 0,005	4,5

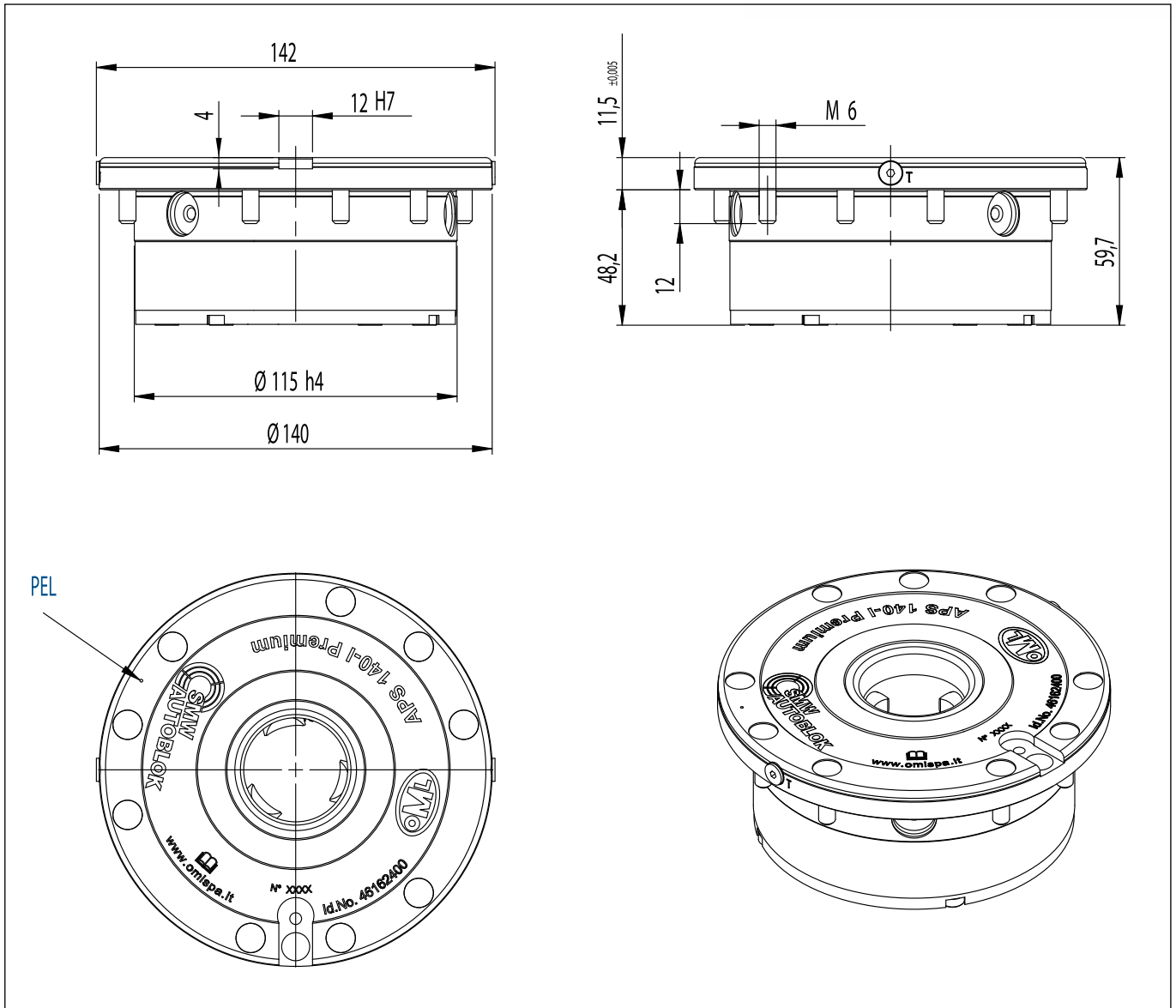
(\*) with screws DIN EN ISO 4762 - 12.9

(\*\*) with “turbo effect”

# APS-140 I "PREMIUM"

## "PREMIUM" mounting module

with turbo effect



code	pull down force(**) N	holding force(*) M10/M12/M16 N	unlocking pressure bar	repeatability mm	weight kg
<b>46 16 24 00</b>	30.000	35.000/50.000/75.000	6	< 0,005	4,5

(\*) with screws DIN EN ISO 4762 - 12.9

(\*\*) with "turbo effect"

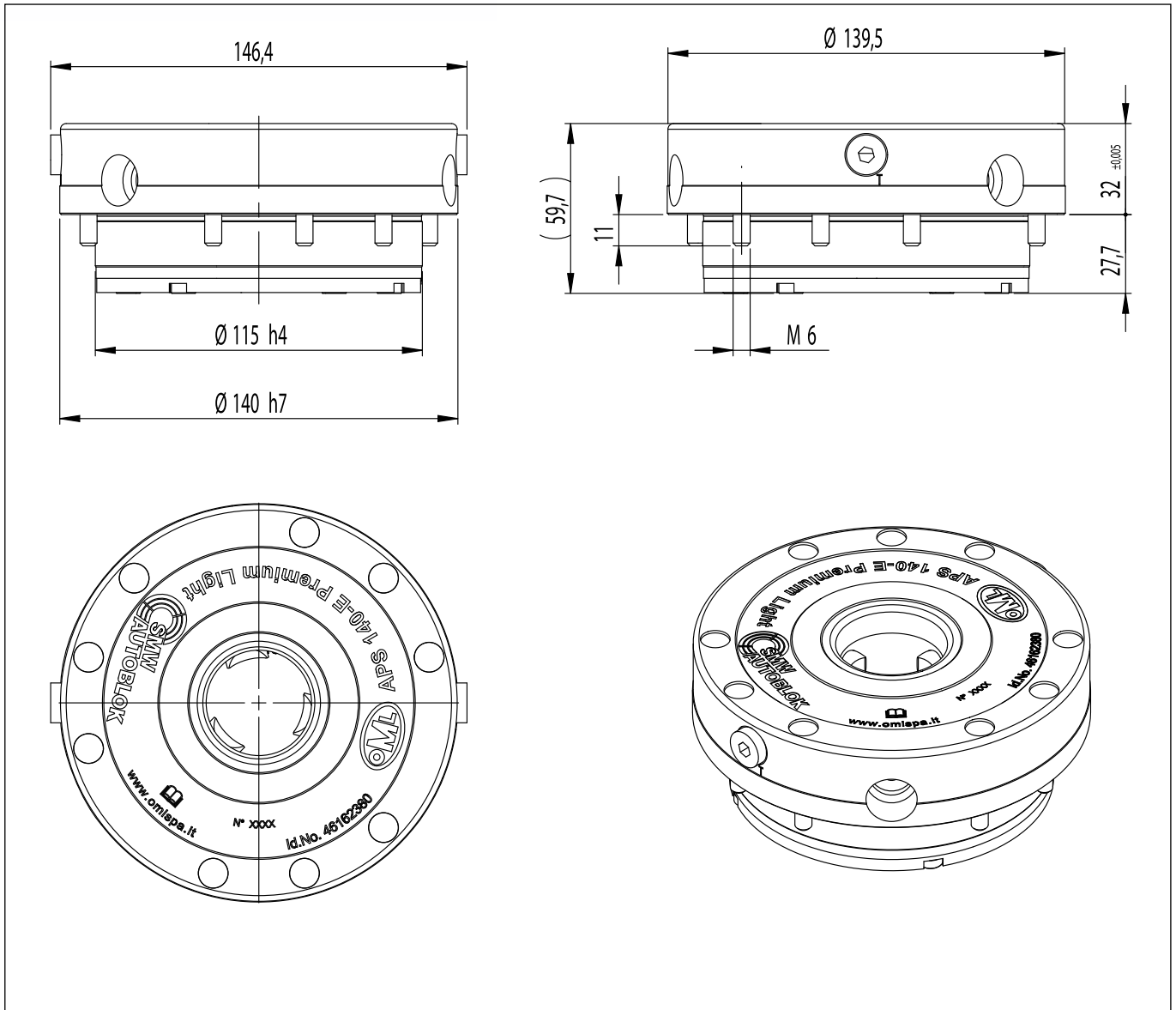


# "PREMIUM" mounting module

# APS-140 E "PREMIUM LIGHT"

0

with turbo effect



code	pull down force(**) N	holding force(*) M10/M12/M16 N	unlocking pressure bar	repeatability mm	weight kg
<b>46 16 23 80</b>	30.000	35.000/50.000/75.000	6	< 0,005	4,5

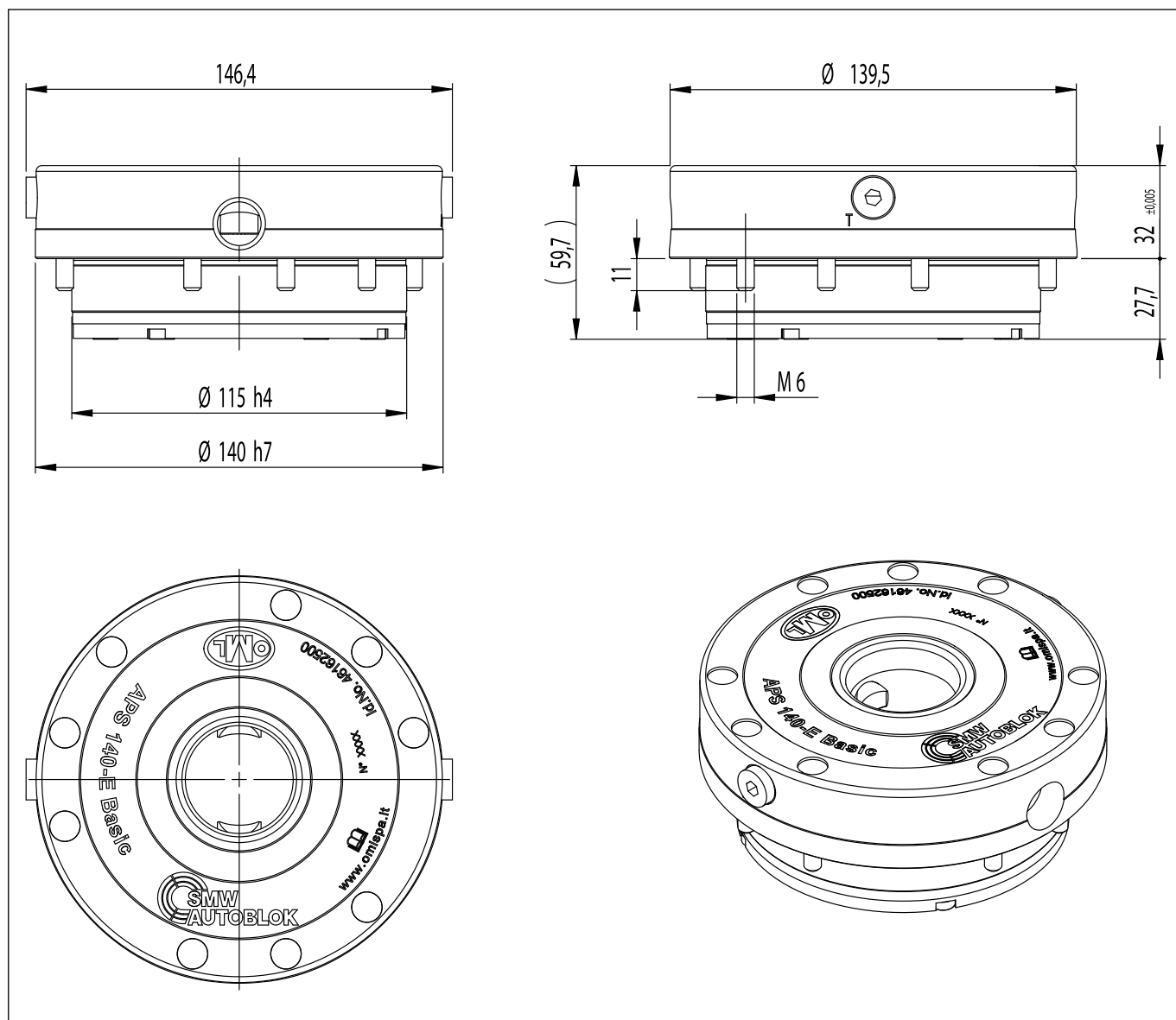
(\*) with screws DIN EN ISO 4762 - 12.9

(\*\*) with "turbo effect"

# APS-140 E

## "BASIC"

## "BASIC" mounting module



code	pull down force N	holding force <sup>(*)</sup> M10/M12/M16 N	unlocking pressure bar	repeatability mm	weight kg
<b>46 16 25 00</b>	12.000	35.000/50.000/75.000	6	< 0,005	4,5

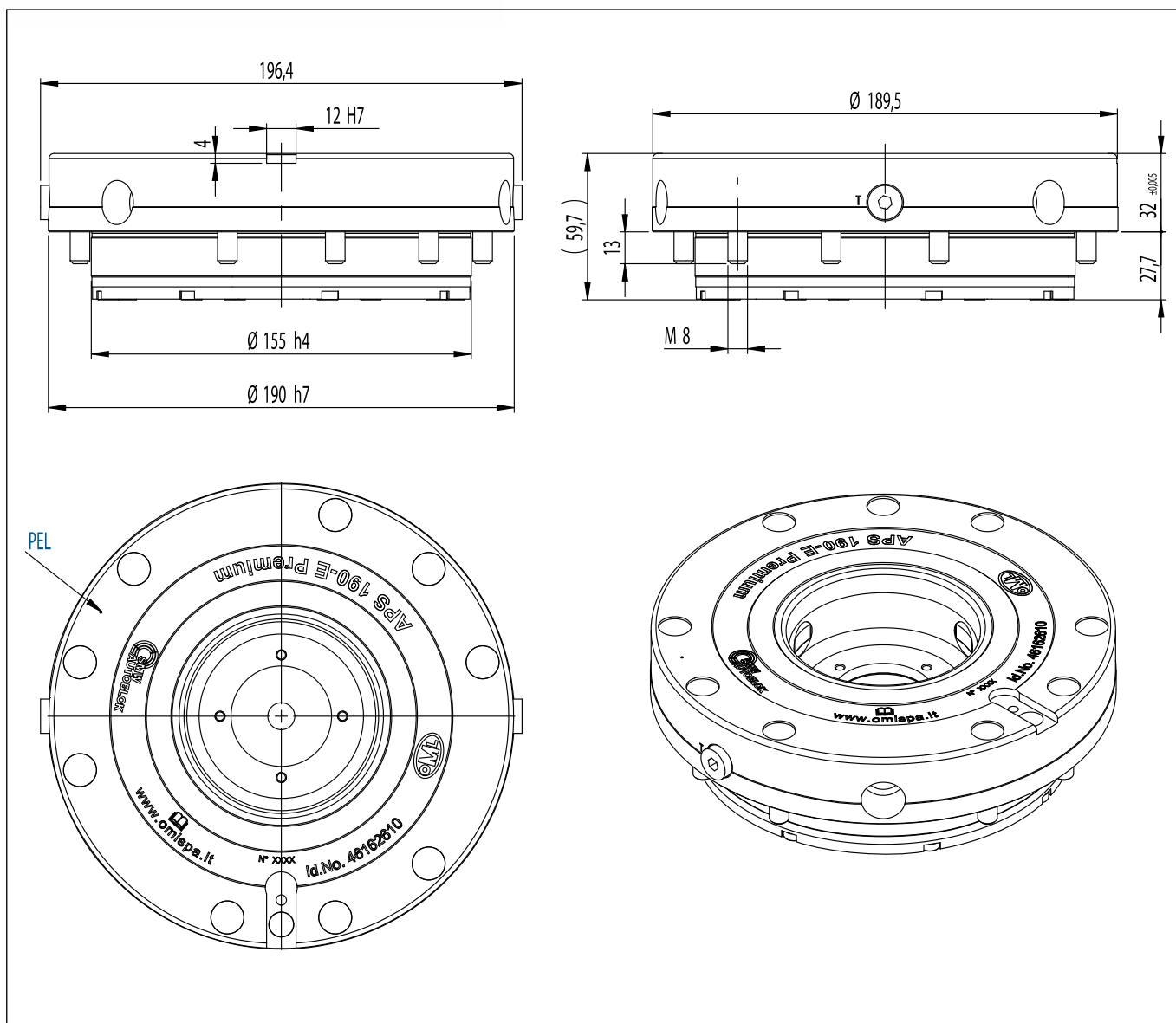
(\*) with screws DIN EN ISO 4762 - 12.9

# "PREMIUM" mounting module

# APS-190 E "PREMIUM"

0

with turbo effect



code	pull down force(**) N	holding force(*) M12/M16 N	unlocking pressure bar	repeatability mm	weight kg
<b>46 16 26 10</b>	45.000	50.000/75.000	6	< 0,005	9

(\*) with screws DIN EN ISO 4762 - 12.9

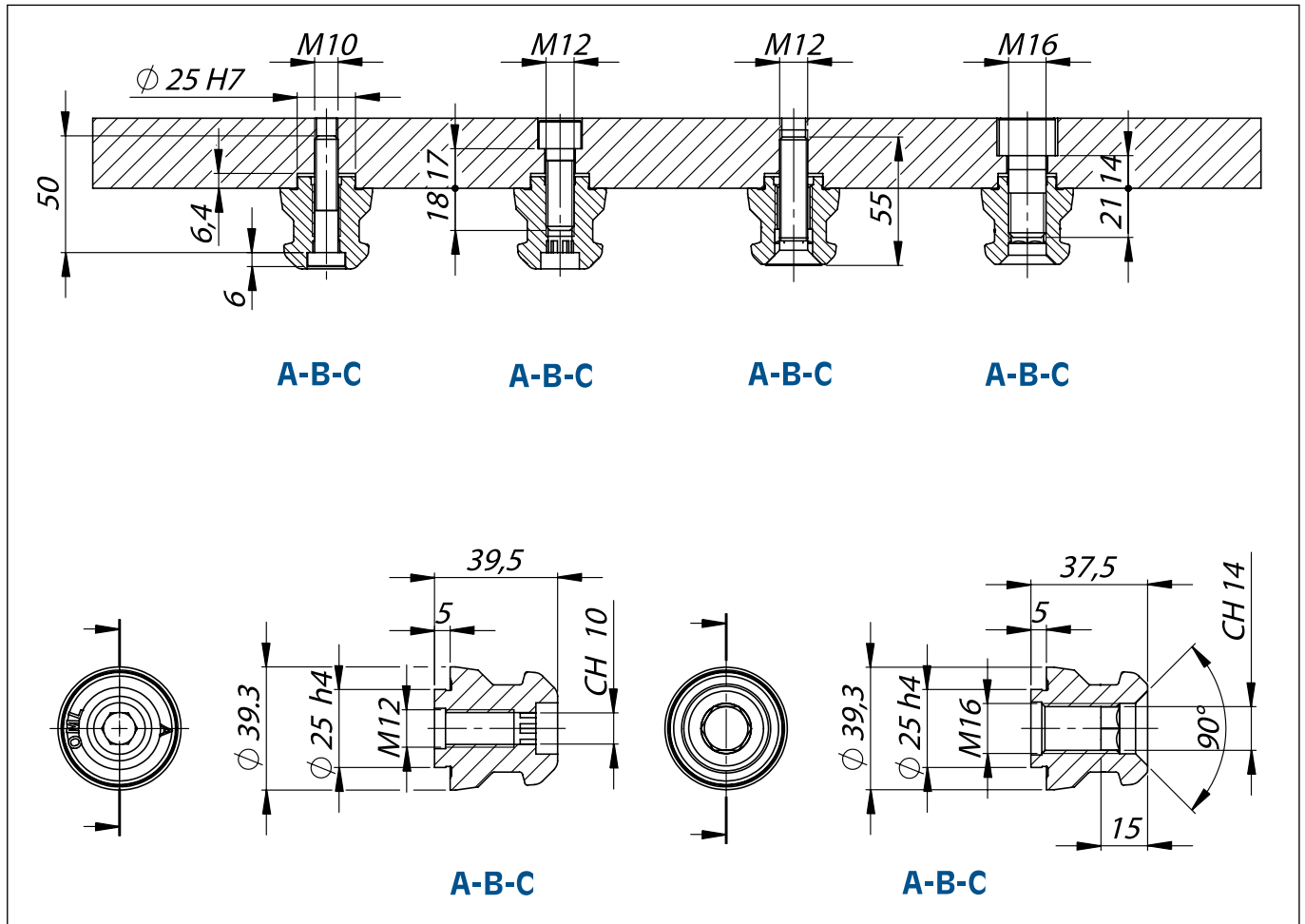
(\*\*) with "turbo effect"

# APS-140

## Clamping pins APS (A - B - C)

With special treatment  
anticorrosion and anti-friction

Can be used with unlock/Vero-S system  
(see pages 0.7 - 0.8 - 0.9 for operating instruction)



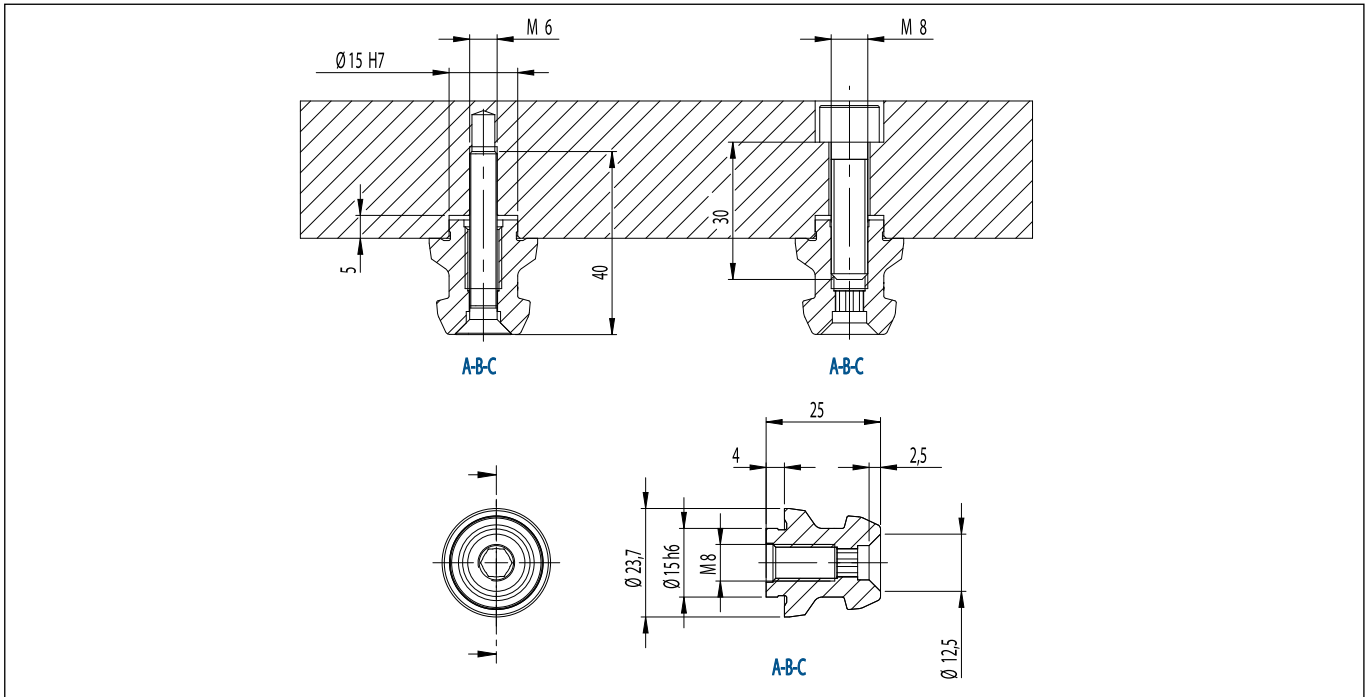
		A	B	C	weight kg
Code	M 12	46 16 23 55	46 16 23 56	46 16 23 57	0,3
	M 16	46 16 24 55	46 16 24 56	46 16 24 57	0,3

# APS-100

## Clamping pins APS (A - B - C)

0

With special treatment anticorrosion and anti-friction

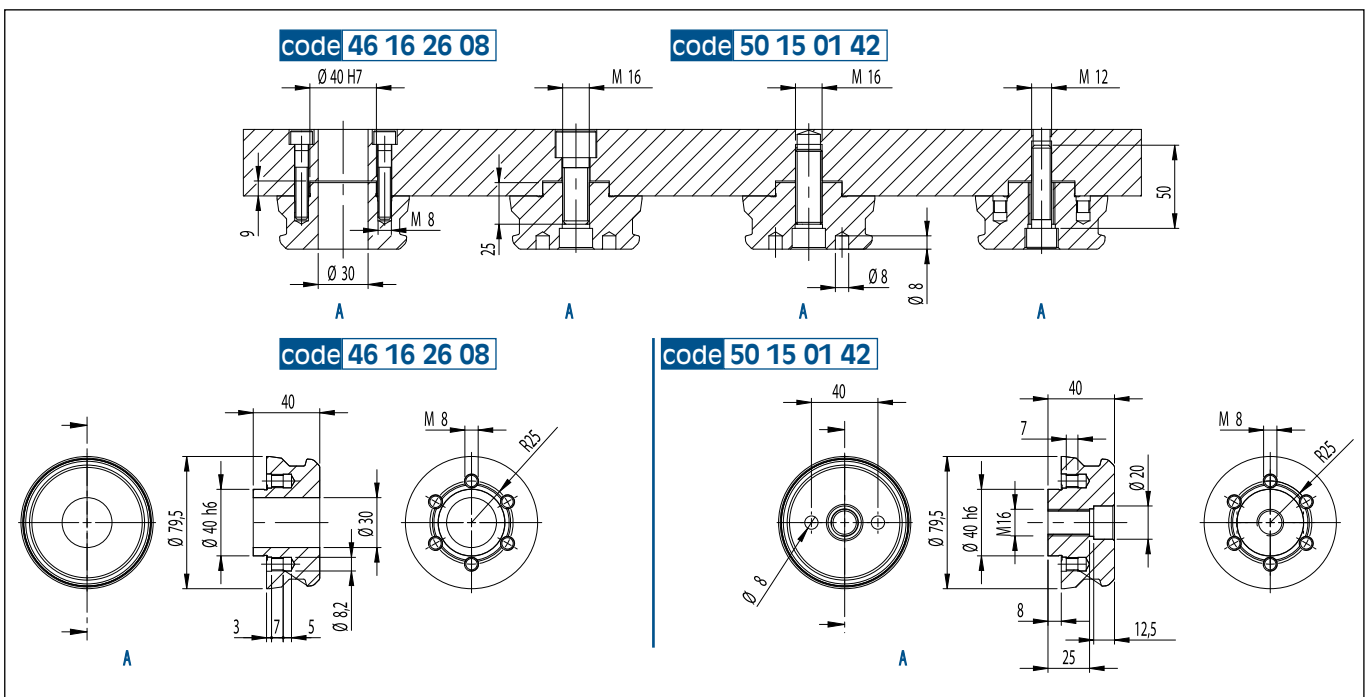


		A	B	C	weight kg
Code	M 8	46 16 21 55	46 16 21 56	46 16 21 57	0,3

# APS-190

## Clamping pins APS (A)

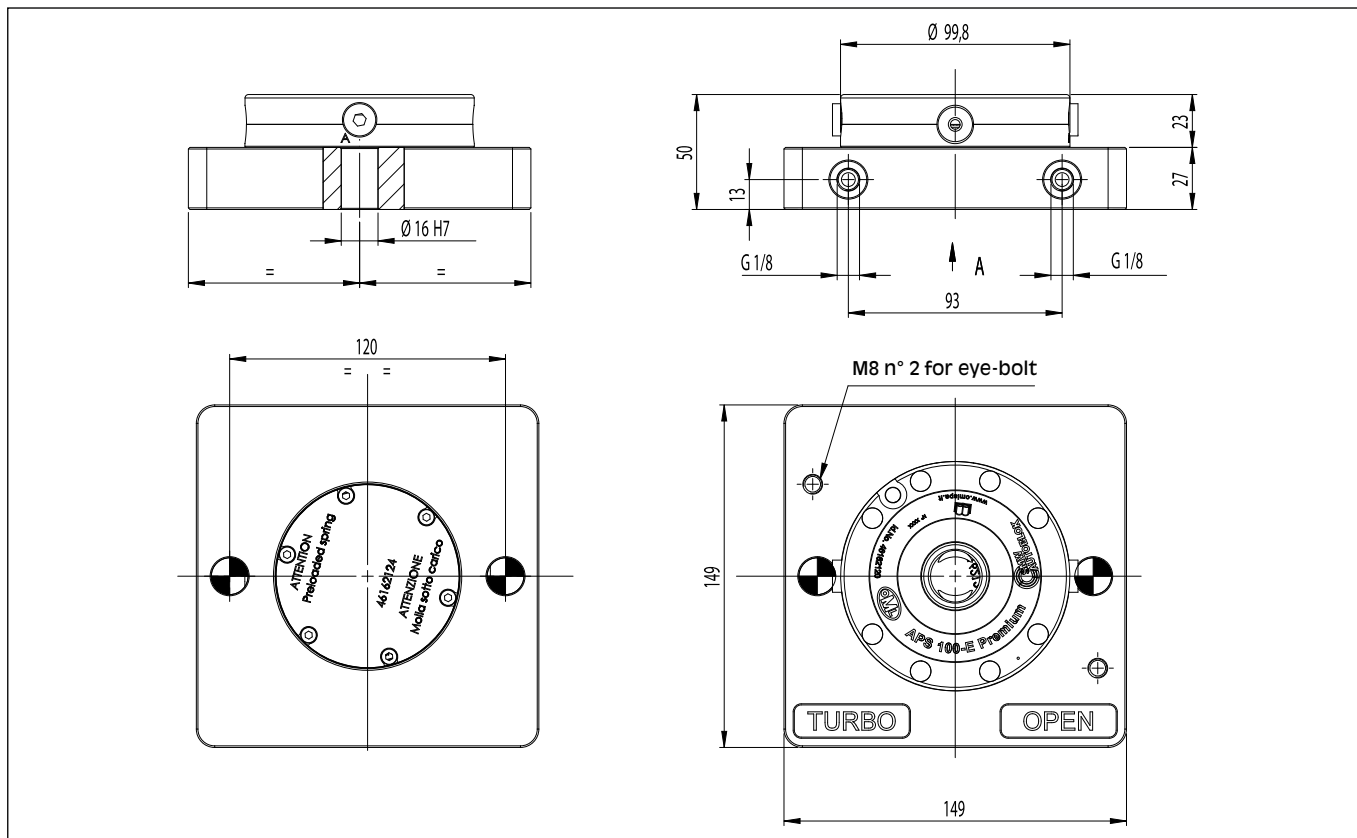
With special treatment anticorrosion and anti-friction



# APS-100 Plates

Plate with 1 module APS 100-E

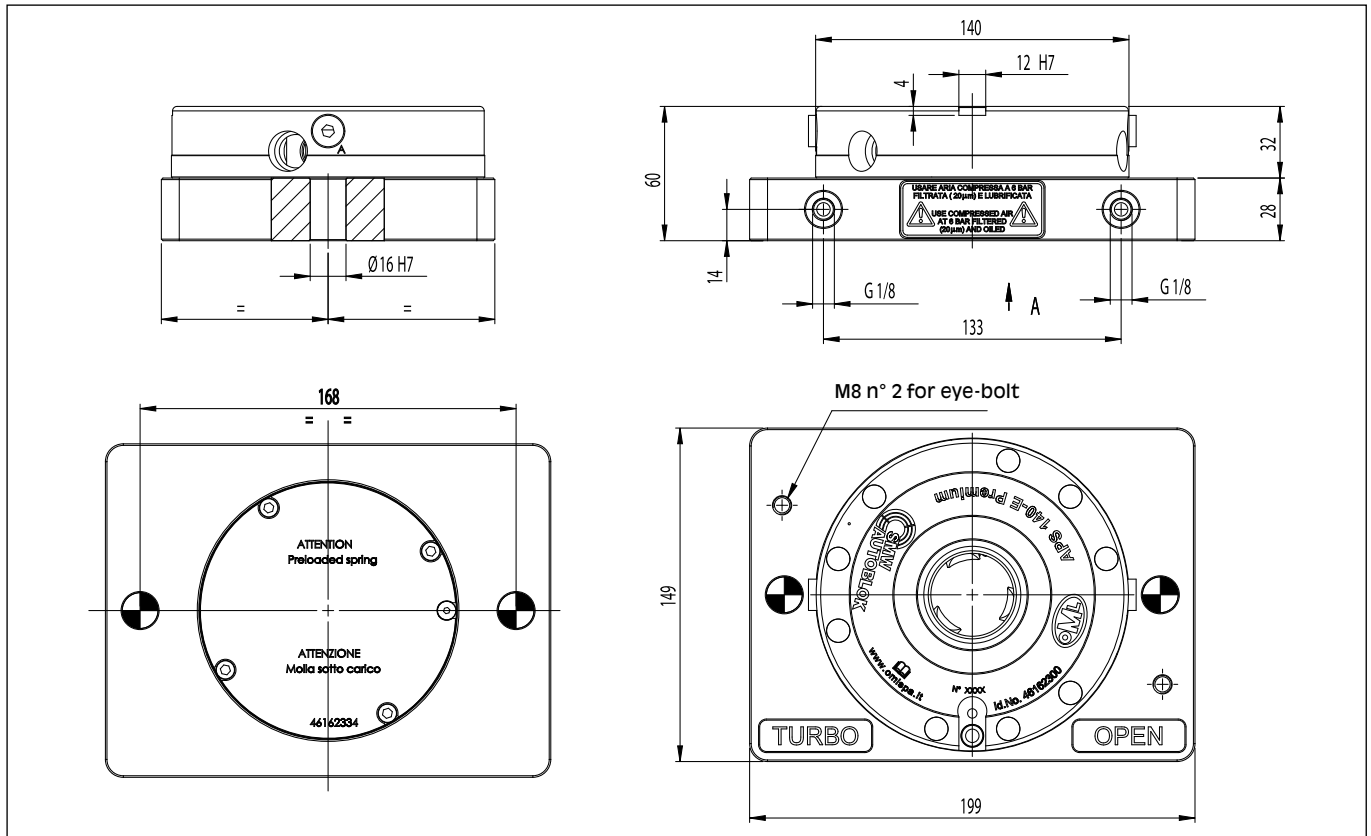
with turbo effect



	code	weight kg
Premium	46 16 82 80	5,5

with turbo effect

Plate with 1 module APS 140-E

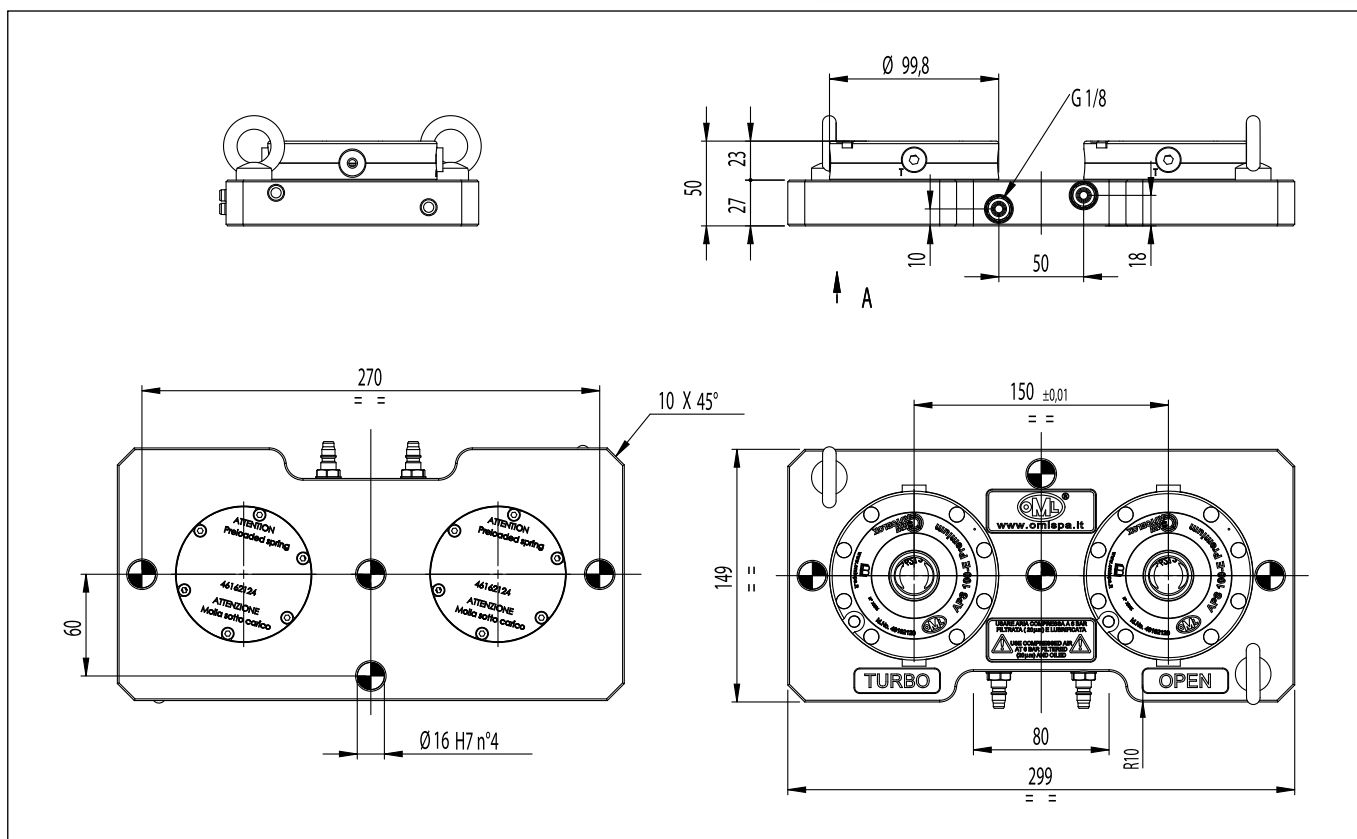


	code	weight kg
Premium	46 16 82 60	5,5

# APS-100 Plates

Plate with 2 modules APS 100-E

with turbo effect  
(Premium)

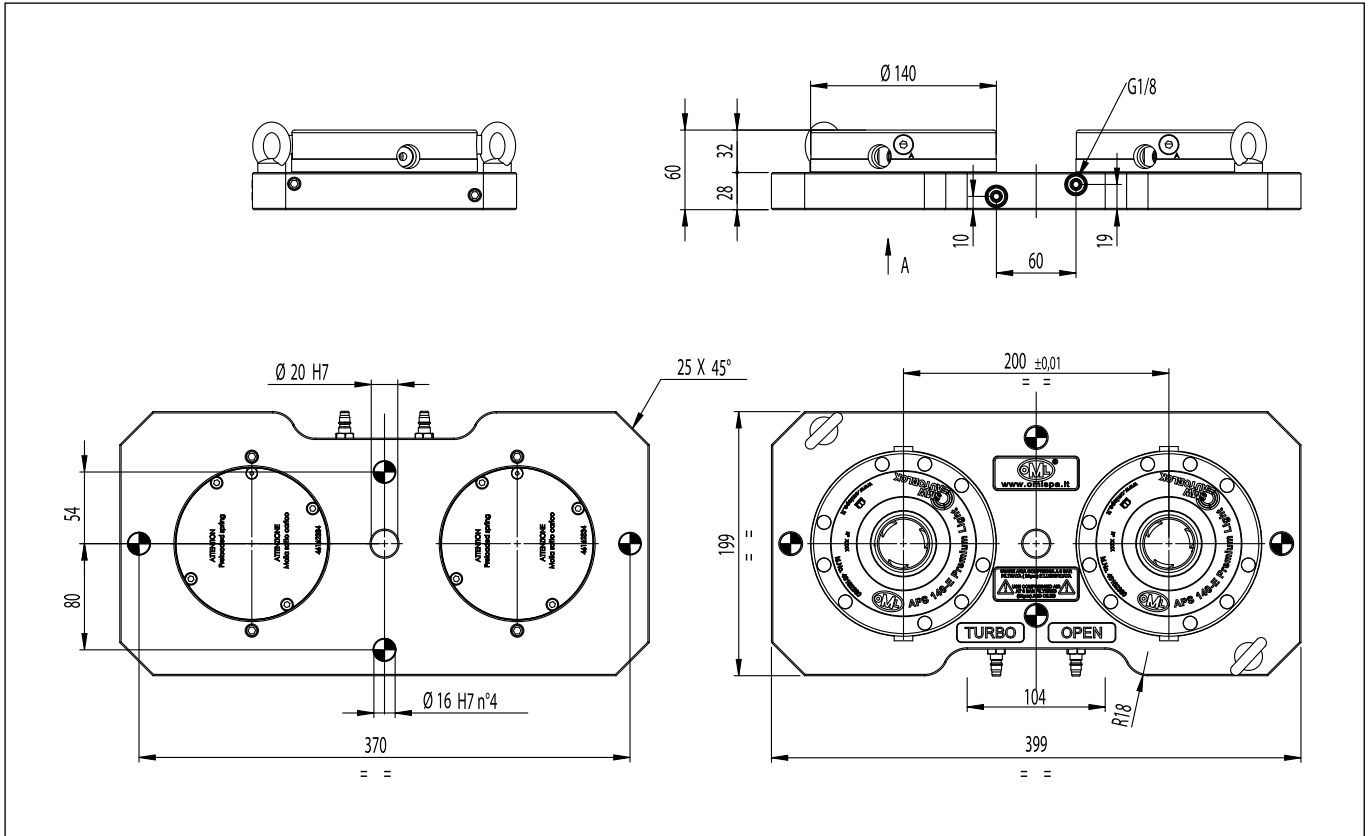


	code	weight kg
Premium	46 16 82 90	10,5
Basic	46 16 82 95	10,5



with turbo effect  
(Premium)

Plate with 2 modules APS 140-E

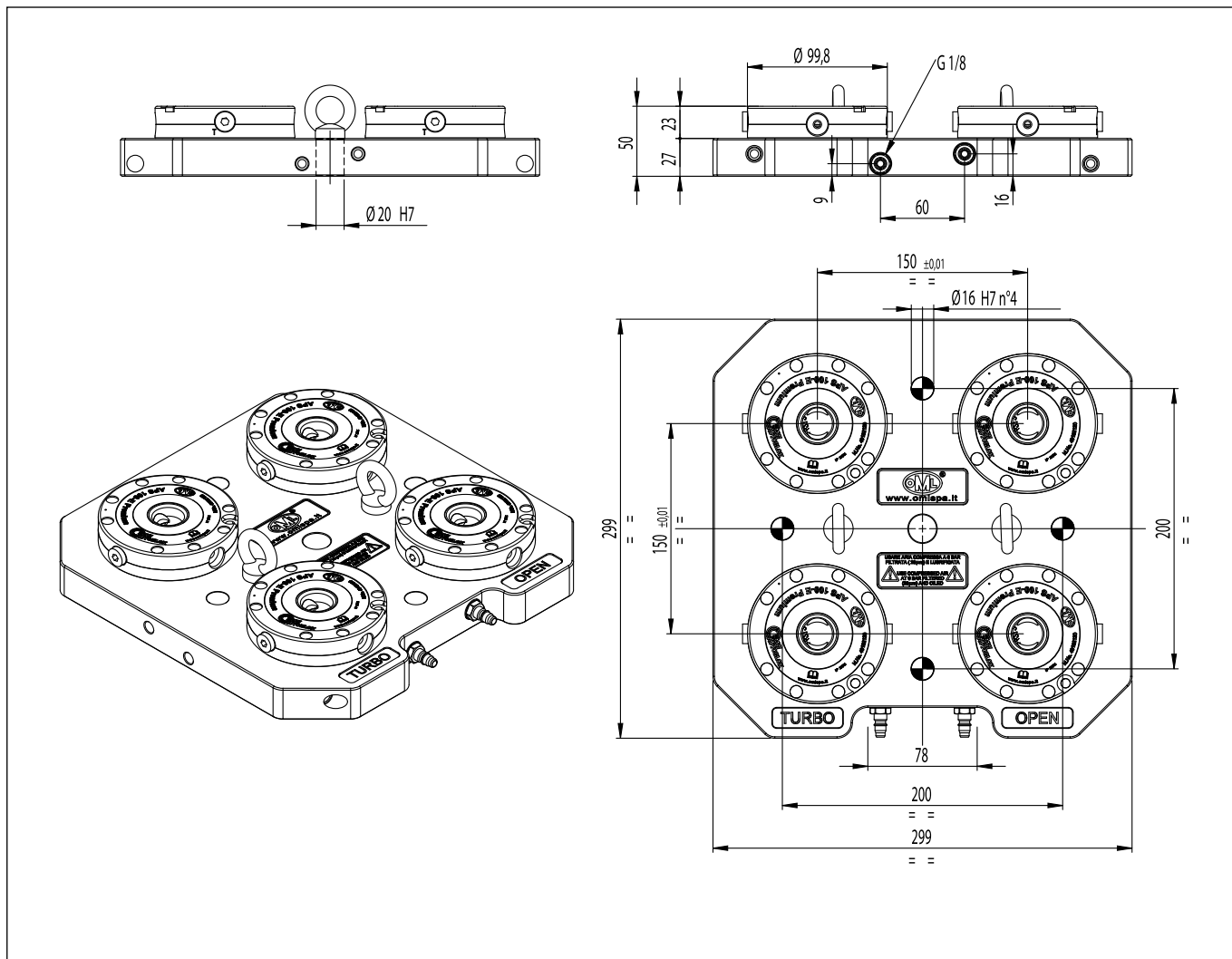


	code	weight kg
Premium light	46 16 82 70	21
Basic	46 16 82 75	21

# APS-100 Plates

Plate with 4 modules APS 100-E  
for vertical machining centers

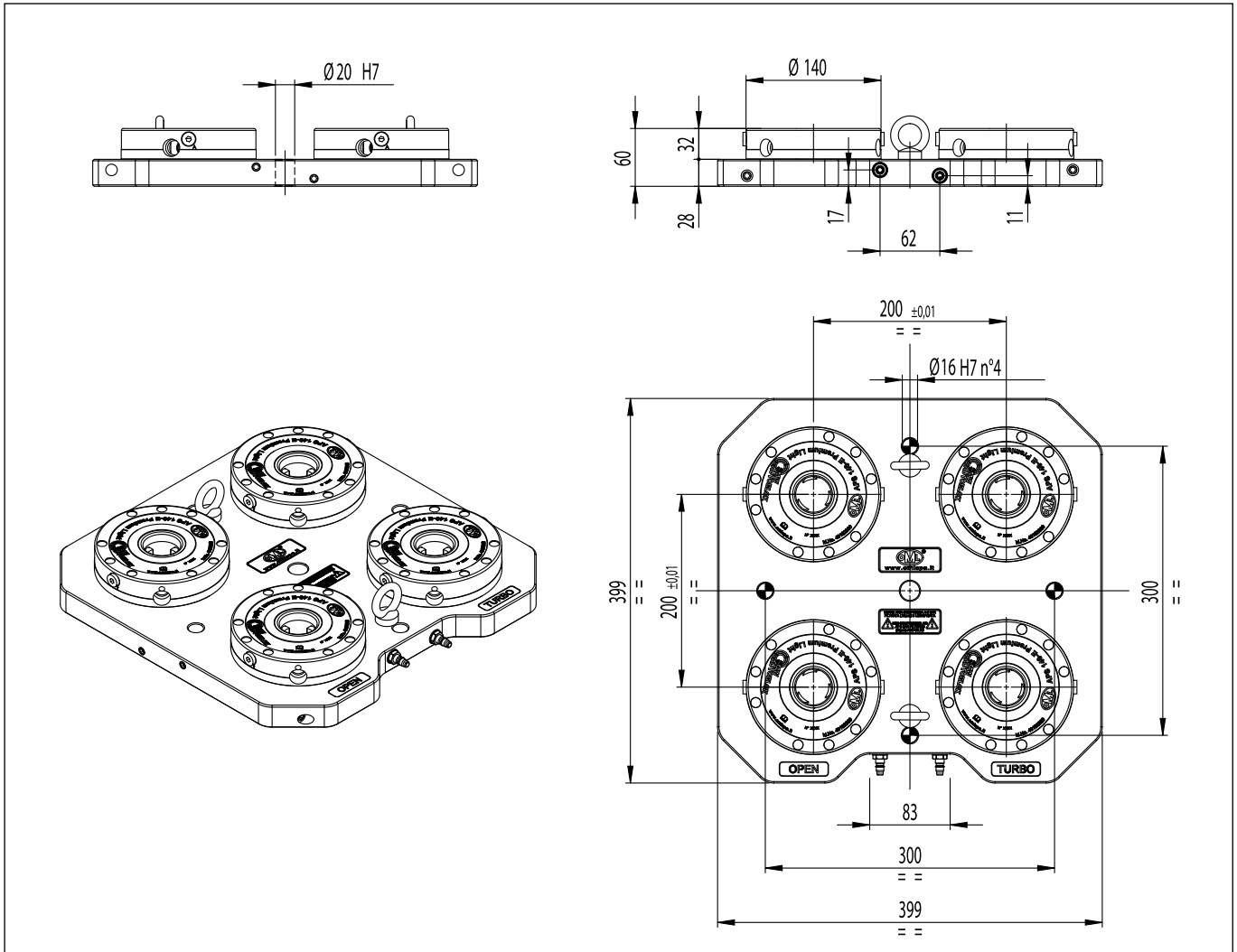
with turbo effect  
(Premium)



	code	weight kg
<b>Premium</b>	<b>46 16 82 50</b>	20,5
<b>Basic</b>	<b>46 16 82 55</b>	20,5

with turbo effect  
(Premium)

Plate with 4 modules APS 140-E  
for vertical machining centers

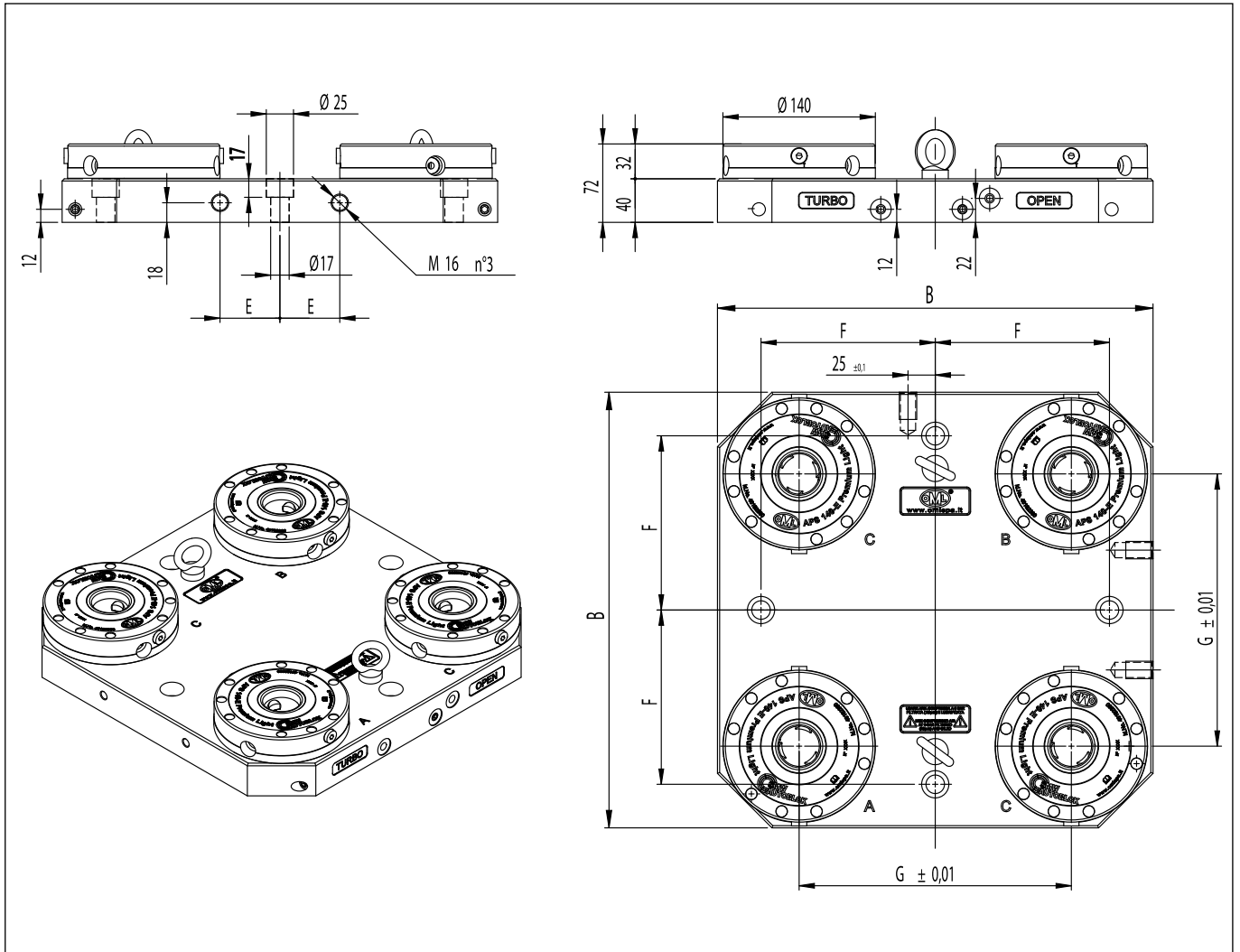


	code	weight kg
Premium light	46 16 82 10	41
Basic	46 16 82 15	41

# APS-140 Plates

Plate with 4 modules APS 140-E  
for horizontal machining centers

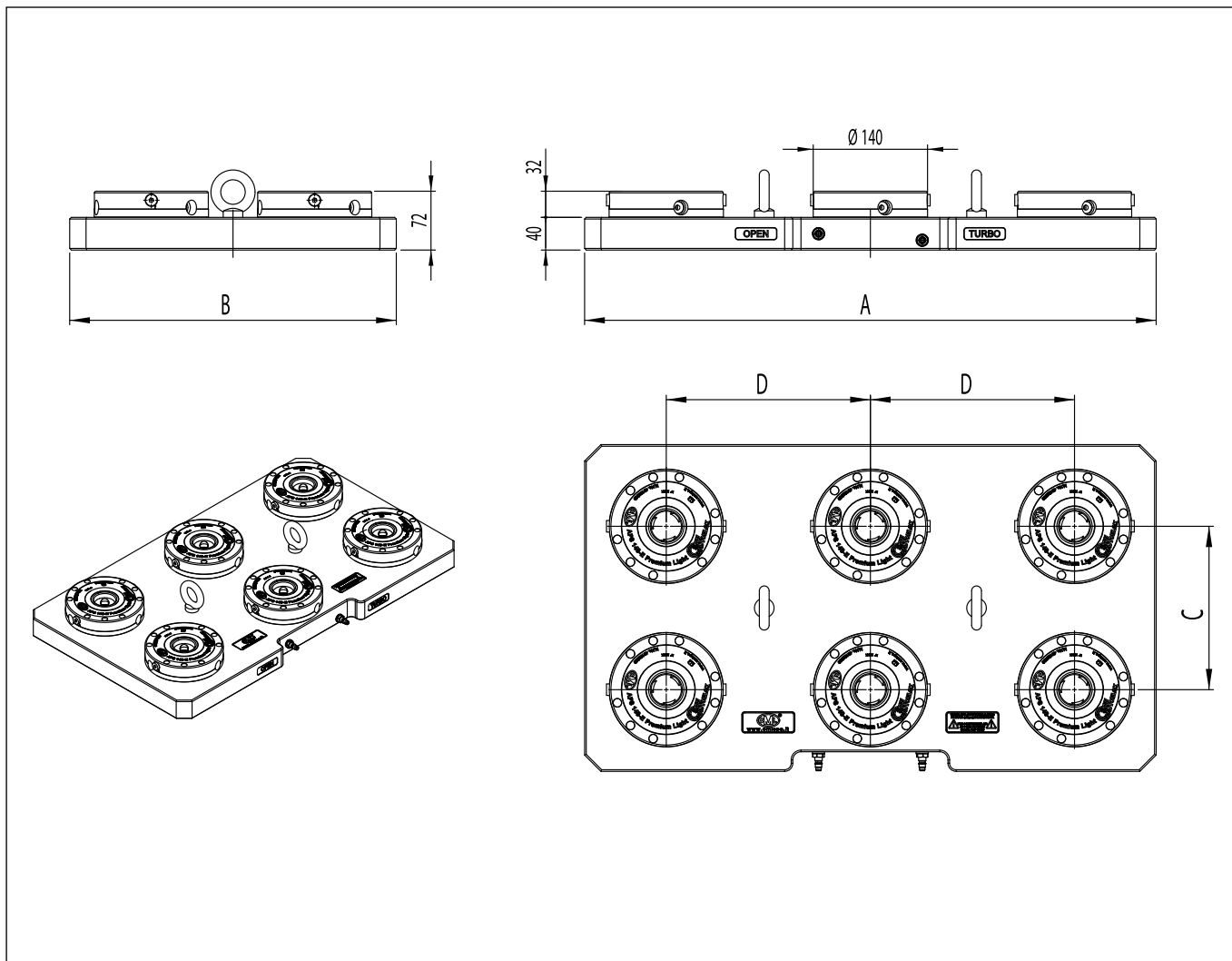
with turbo effect  
(Premium)



	code	B mm	E mm	F mm	G mm	weight kg
Premium light	<b>46 16 70 40</b>	400	55	160	250	57
Basic	<b>46 16 70 45</b>	400	55	160	250	57
Premium light	<b>46 16 70 50</b>	500	75	200	300	85
Basic	<b>46 16 70 55</b>	500	75	200	300	85
Premium light	<b>46 16 70 60</b>	630	100	250	420	130
Basic	<b>46 16 70 65</b>	630	100	250	420	130

with turbo effect  
(Premium)

Rectangular plate  
with 6 modules APS 140-E

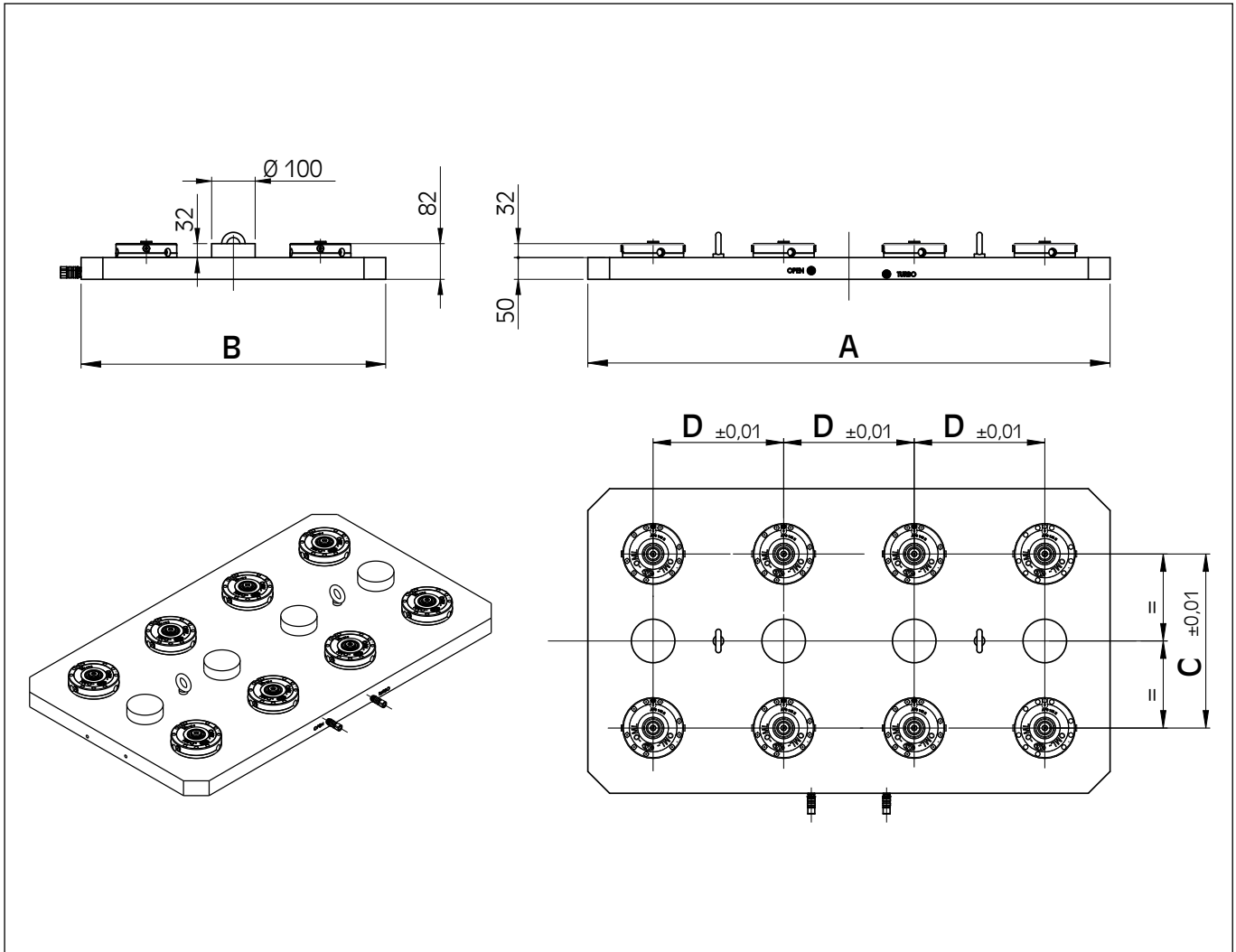


	code	A mm	B mm	C mm	D mm	weight kg
Premium light	46 16 81 10	600	400	200	200	83
Basic	46 16 81 15	600	400	200	200	84
Premium light	46 16 81 20	700	400	200	250	94
Basic	46 16 81 25	700	400	200	250	96
Premium light	46 16 81 30	800	400	300	300	108
Basic	46 16 81 35	800	400	300	300	109

# APS-140 Plates

Rectangular plate  
with 8/10 modules APS 140-E

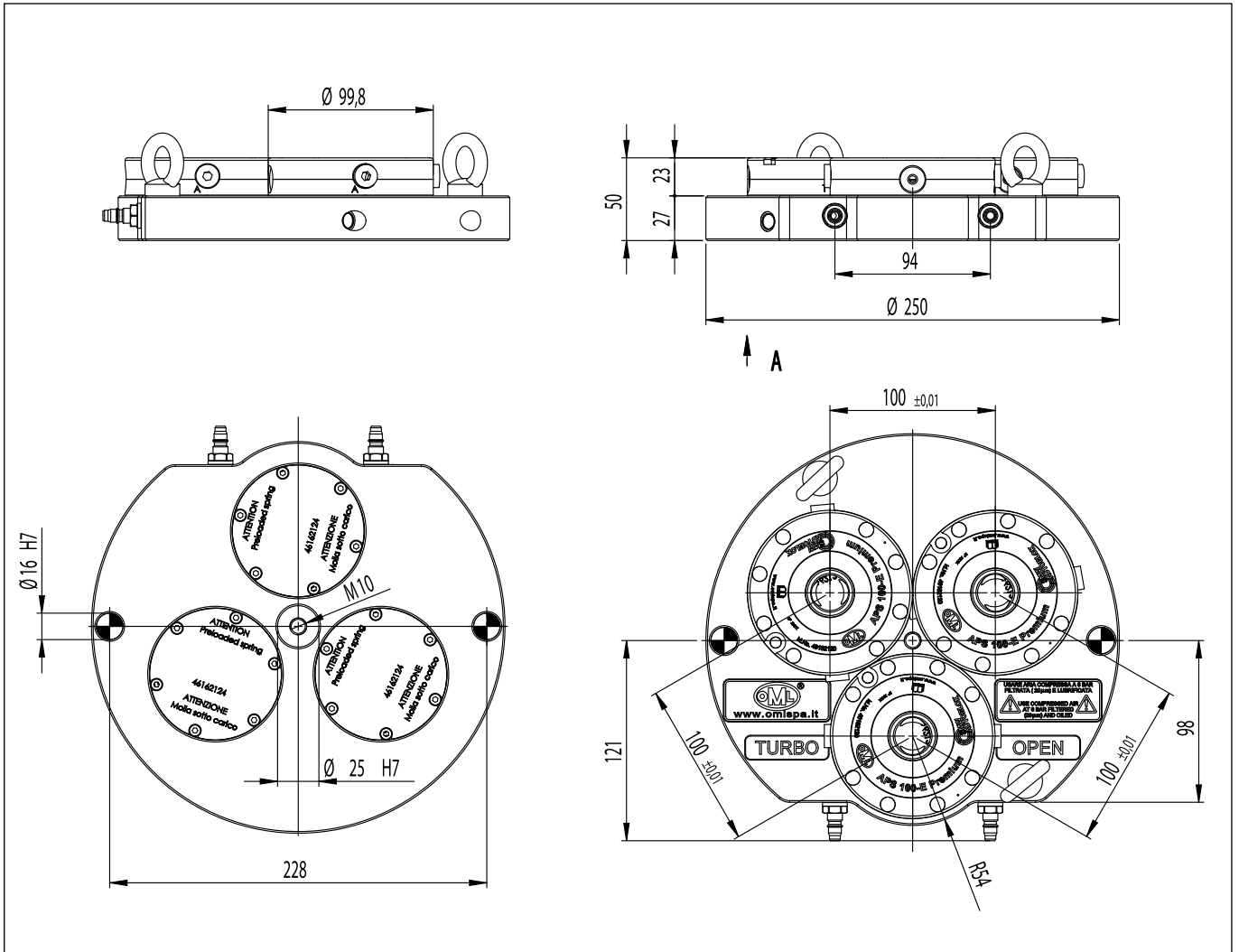
with turbo effect  
(Premium)



	code	A mm	B mm	C mm	D mm	n° of modules	weight kg
Premium light	46 16 81 40	1.000	500	250	250	8	288
Basic	46 16 81 45	1.000	500	250	250	8	289
Premium light	46 16 81 50	1.200	700	400	300	8	300
Basic	46 16 81 55	1.200	700	400	300	8	302
Premium light	46 16 81 60	1.400	700	400	300	10	344
Basic	46 16 81 65	1.400	700	400	300	10	345

with turbo effect  
(Premium)

Round plate  
with 3 modules APS 100-E

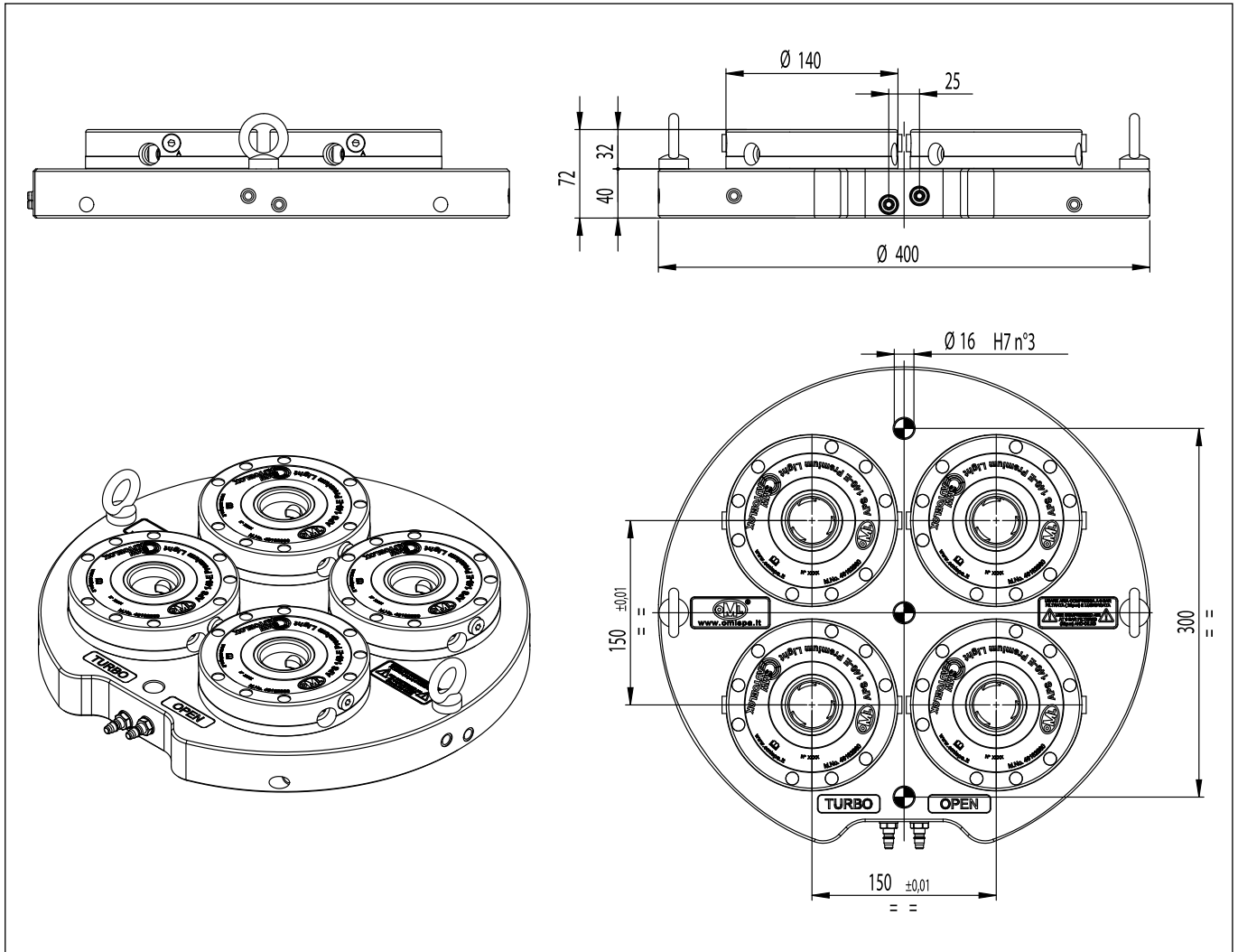


	code	weight kg
Premium	46 16 80 10	37
Basic	46 16 80 15	36

# APS-140 Plates

Round plate  
with 4 modules APS 140-E

with turbo effect  
(Premium)

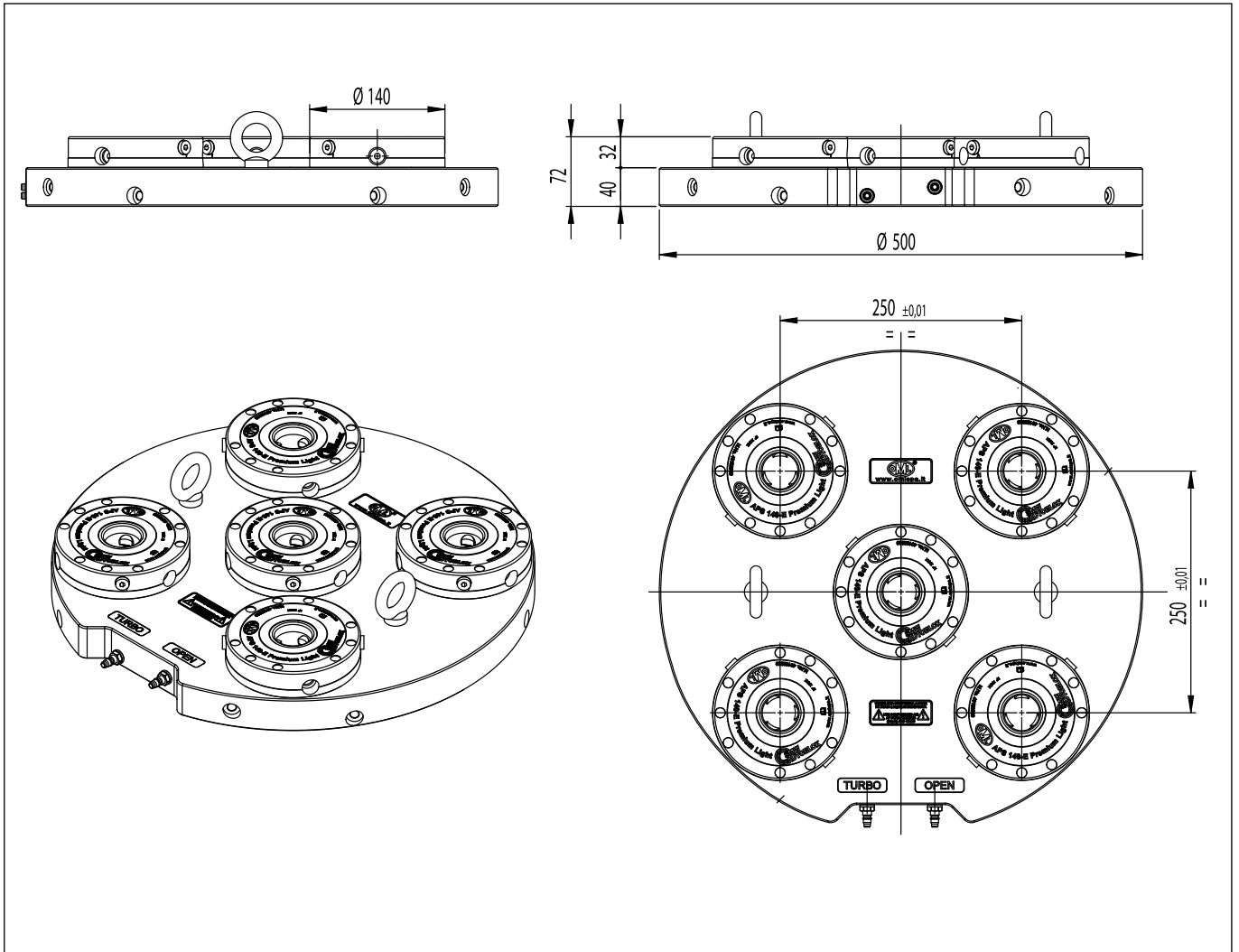


	code	weight kg
Premium Light	46 16 80 20	45
Basic	46 16 80 25	44



with turbo effect  
(Premium)

Round plate  
with 5 modules APS 140-E

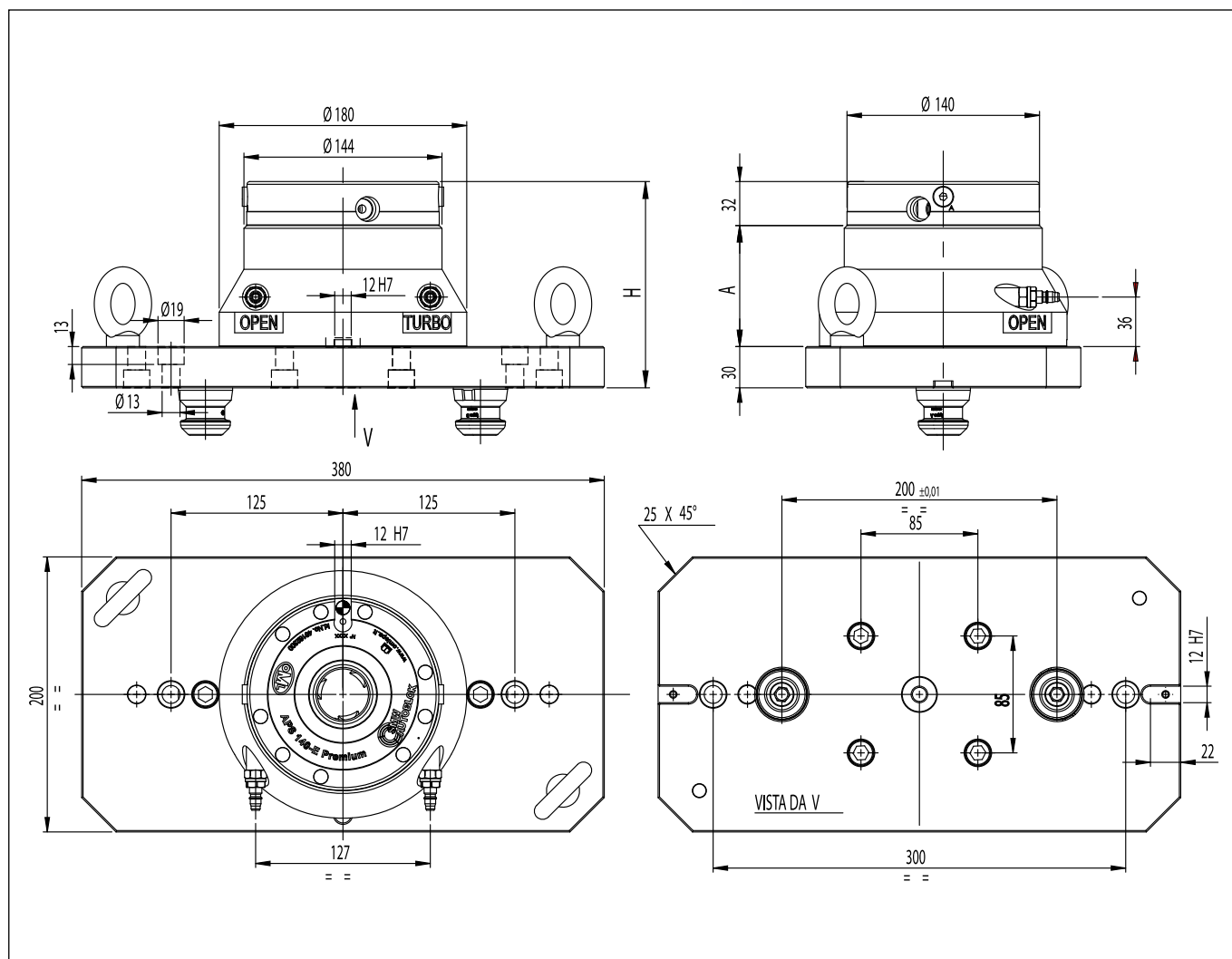


	code	weight kg
Premium Light	46 16 80 30	68
Basic	46 16 80 35	67

# APS-140 Plates

Plate with 1 module APS 140 E  
for 5 axis M.T.  
(adaptation for "DUO" APS)

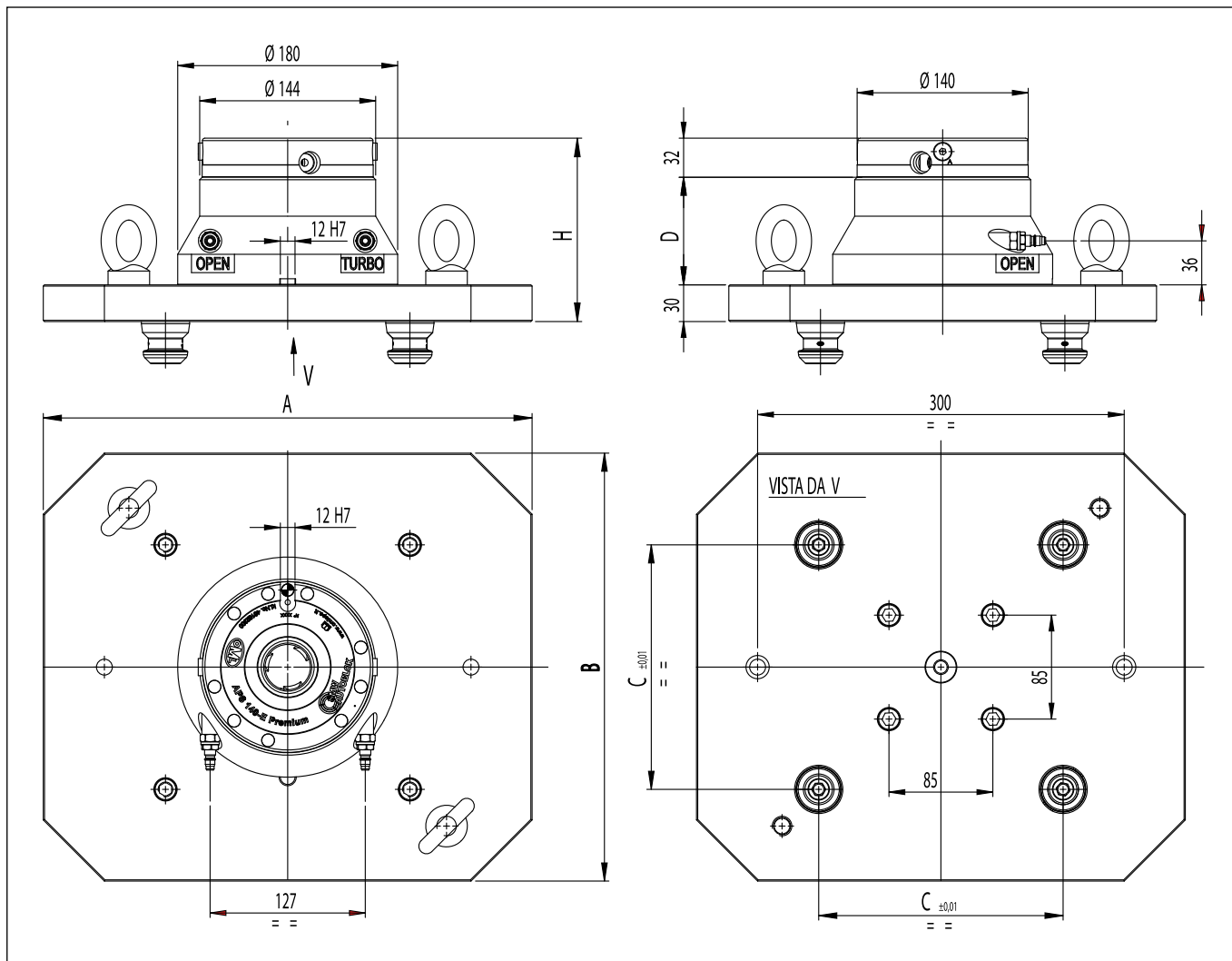
with turbo effect



	code	A mm	H mm	weight kg
Premium	46 16 78 10	88	150	38
Premium	46 16 78 20	148	210	49

with turbo effect

Plate with 1 module APS 140 E  
for 5 axis M.T.  
(adaptation for plates at 4 modules)

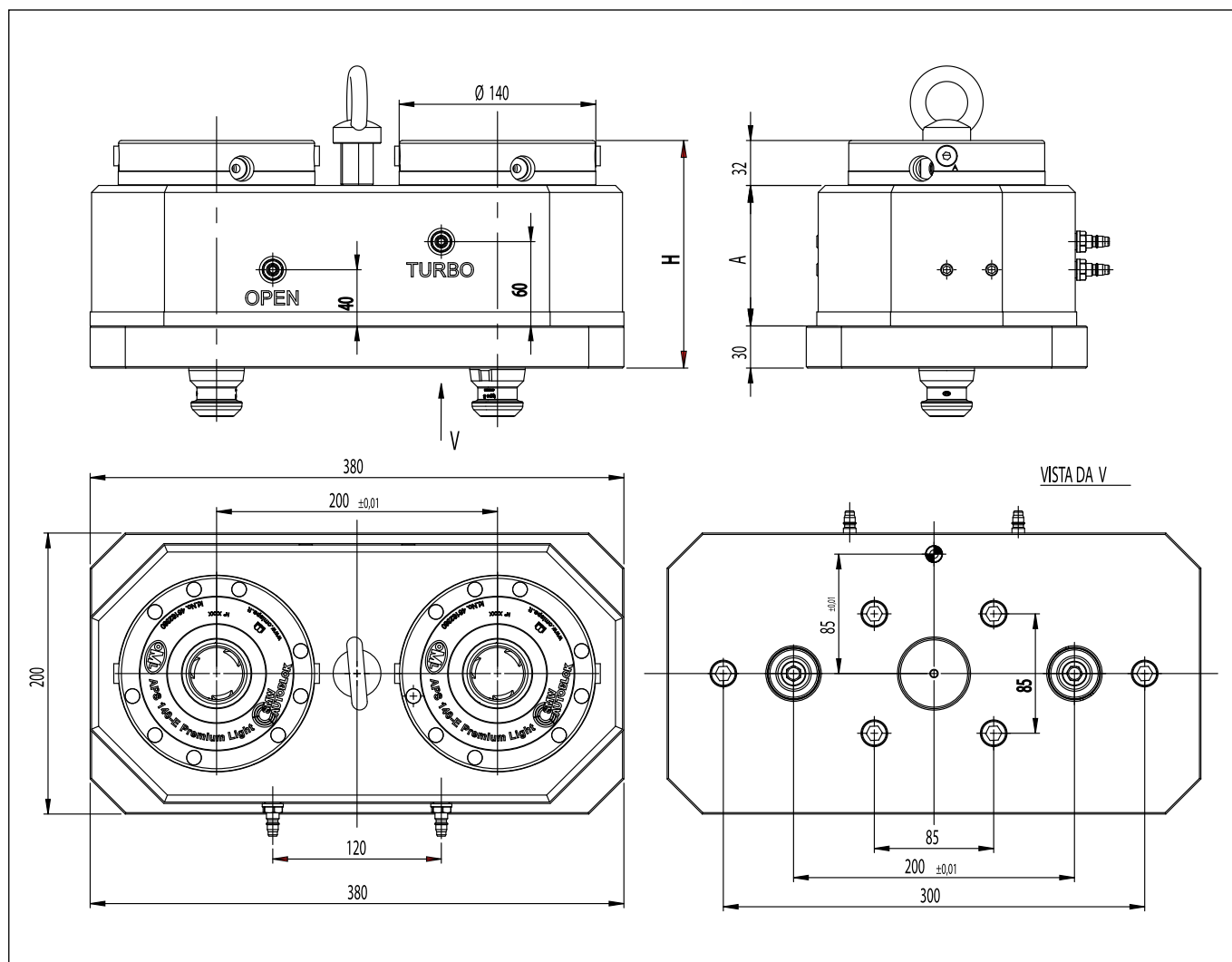


	code	A mm	B mm	C mm	D mm	H mm	weight kg
Premium	46 16 78 30	400	350	200	88	150	56
Premium	46 16 78 40	400	350	200	148	210	67,1
Premium	46 16 78 50	500	450	300	88	150	76,6
Premium	46 16 78 60	500	450	300	148	210	87,7

# APS-140 Plates

Plate with 2 modules APS 140 E  
for 5 axis M.T.  
(adaptation for plates at 2 modules)

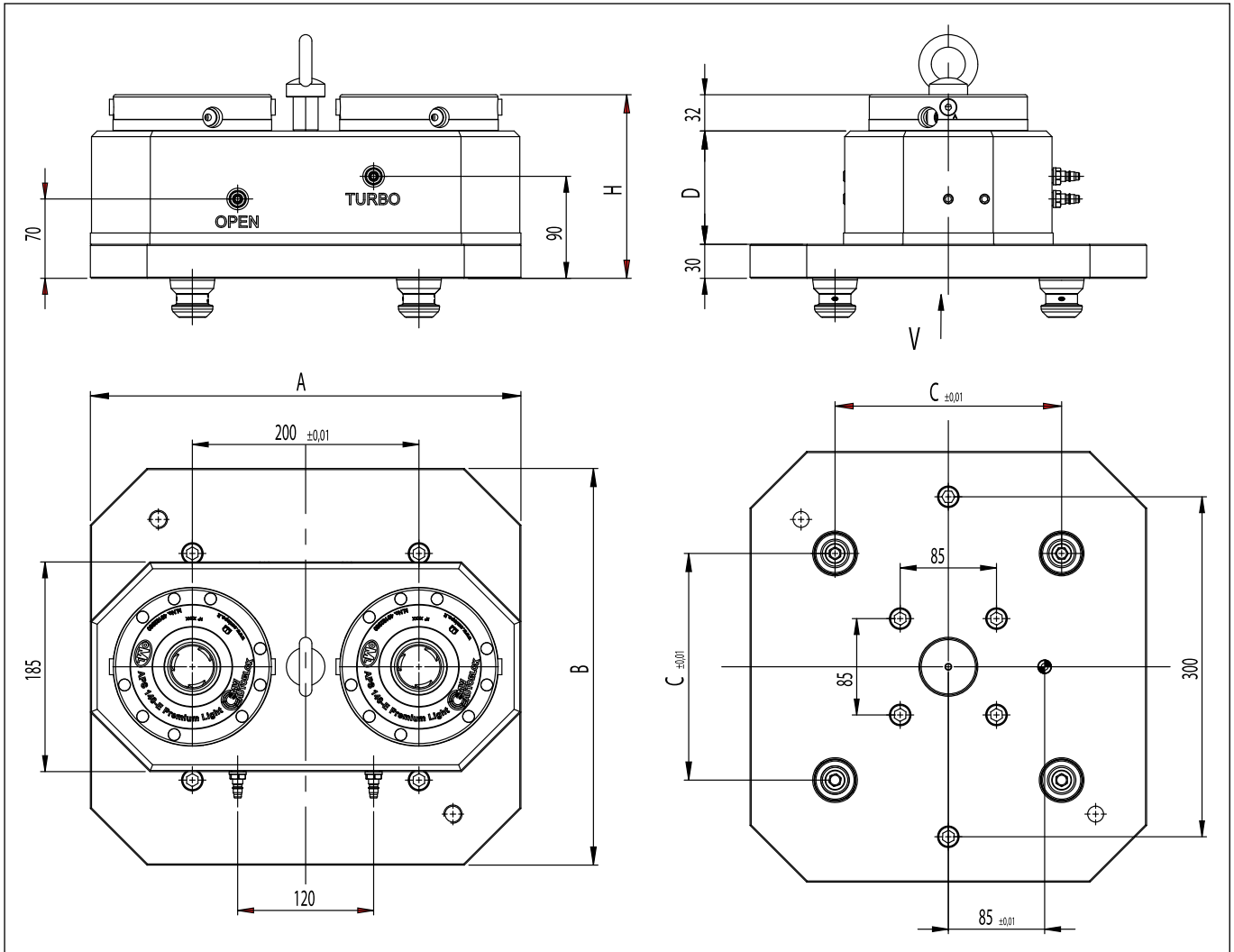
with turbo effect  
(Premium)



	code	A mm	H mm	weight kg
Premium Light	46 16 79 10	100	162	70
Basic	46 16 79 15	100	162	71
Premium Light	46 16 79 20	200	262	118
Basic	46 16 79 25	200	262	119

with turbo effect  
(Premium)

Plate with 2 modules APS 140 E  
for 5 axis M.T.  
(adaptation for plates at 4 modules)



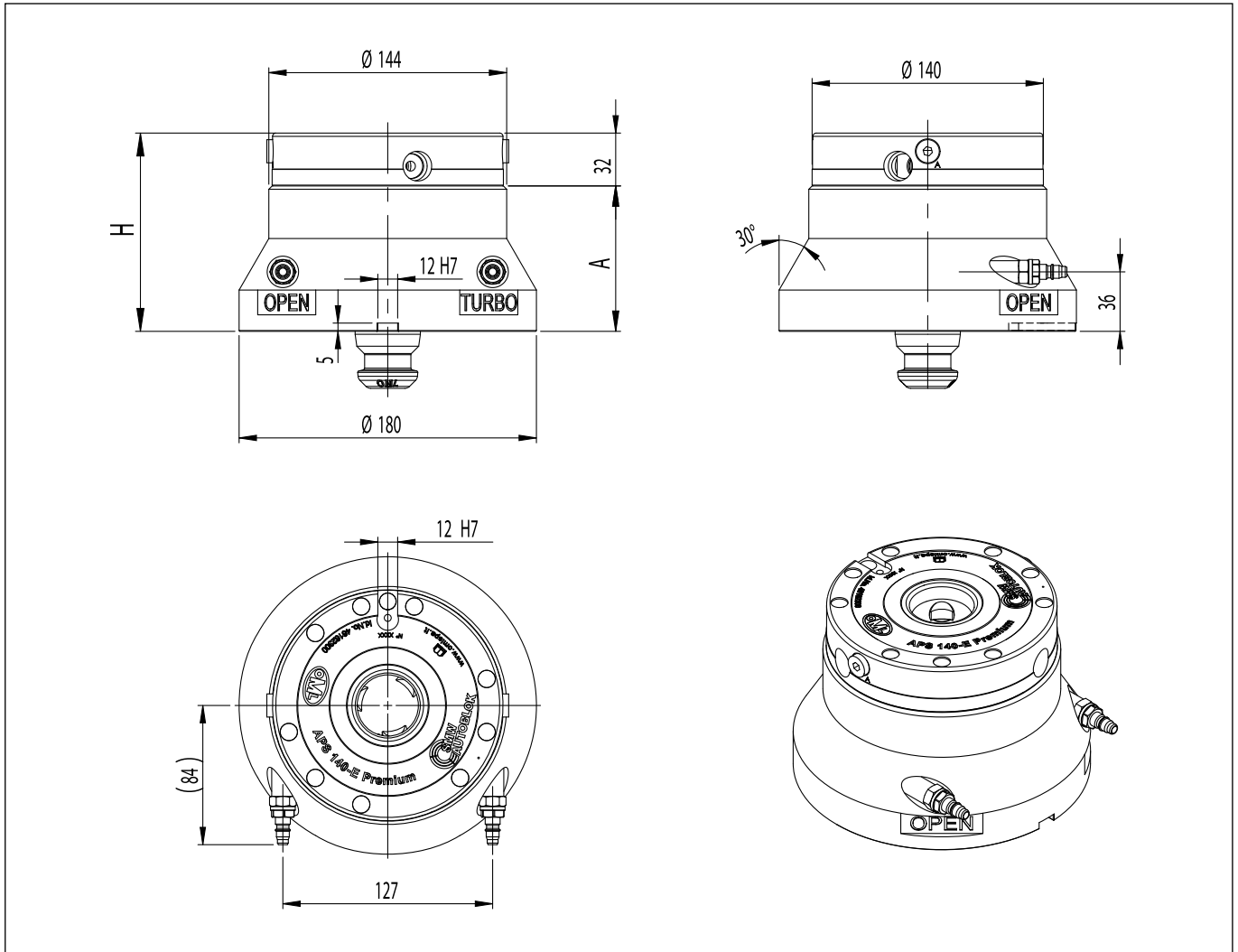
	code	A mm	B mm	C mm	D mm	H mm	weight kg
Premium Light	46 16 79 30	400	350	200	100	162	89
Basic	46 16 79 35	400	350	200	100	162	89
Premium Light	46 16 79 40	400	350	200	200	262	137
Basic	46 16 79 45	400	350	200	200	262	137
Premium Light	46 16 79 50	500	450	300	100	162	109
Basic	46 16 79 55	500	450	300	100	162	109
Premium Light	46 16 79 60	500	450	300	200	262	157
Basic	46 16 79 65	500	450	300	200	262	157

# APS-140

## Riser

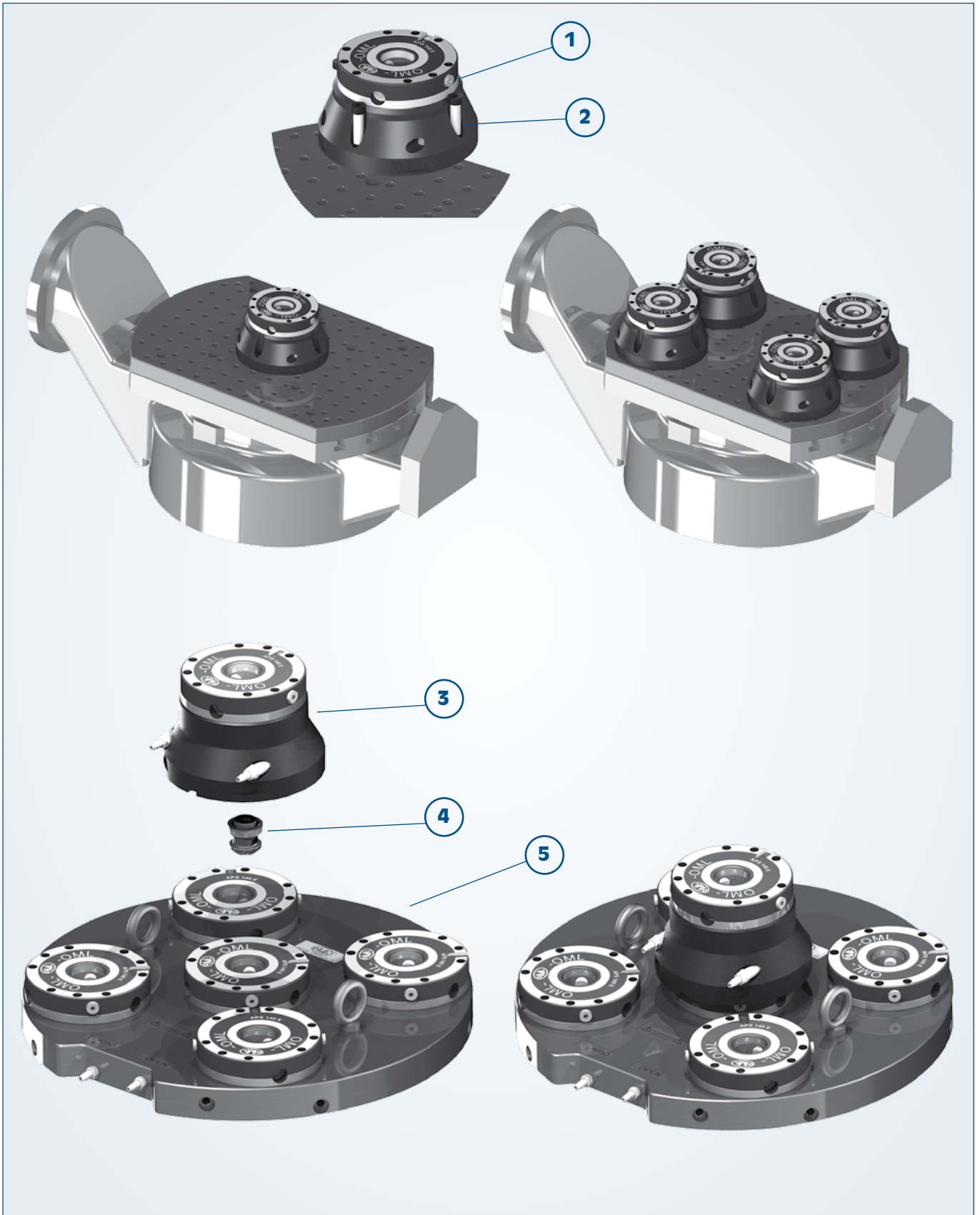
Riser with 1 module APS 140 E  
for 5 axis M.T.

with turbo effect



	code	A mm	H mm	weight kg
Premium	46 16 78 19	88	120	-
Premium	46 16 78 29	148	180	-

# Working Examples

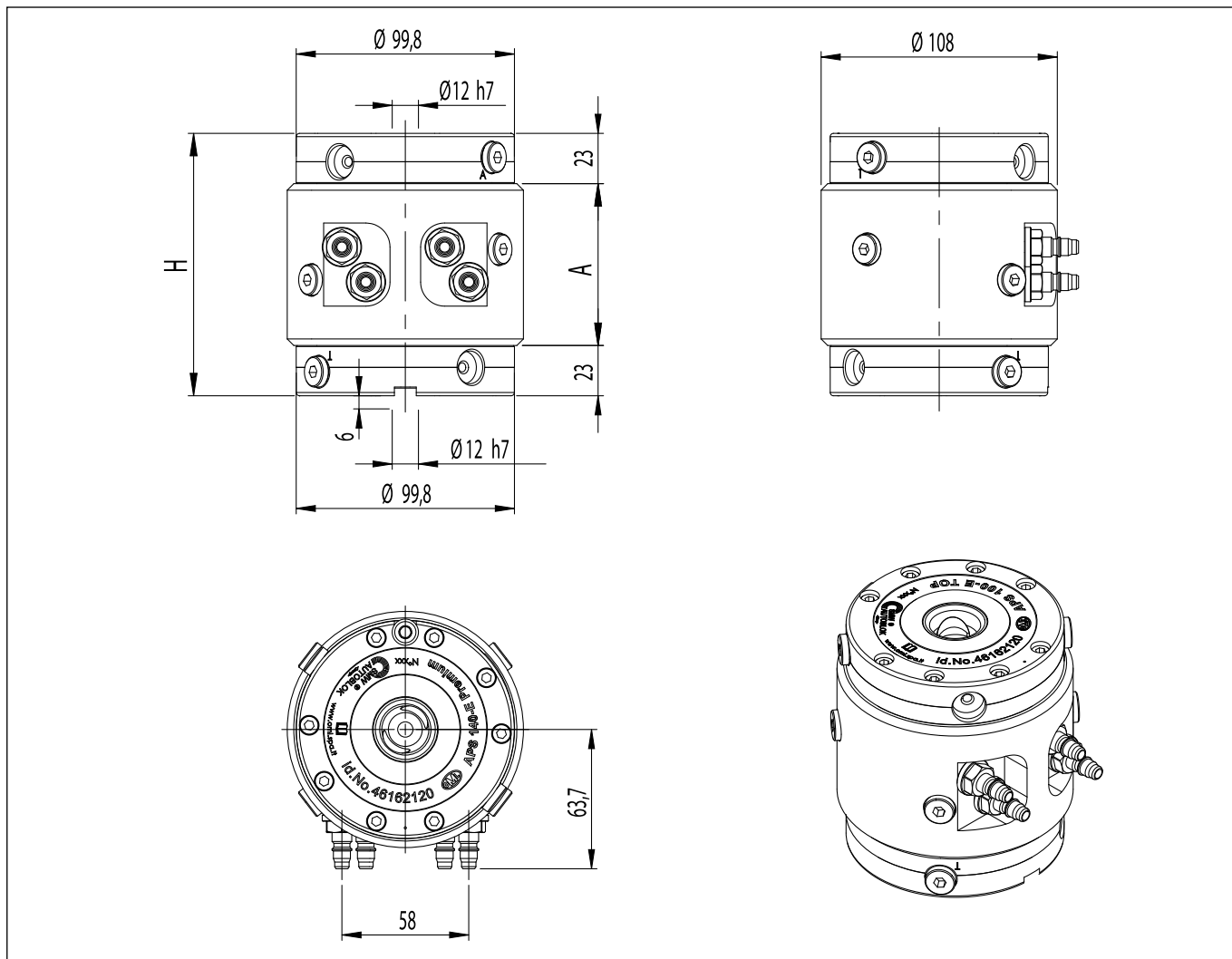


- 01..... Special riser for plates with grid
- 02..... Calibrated screw
- 03..... Riser (ex. 46167819)
- 04..... Pin type A
- 05..... Round plate with 5 APS modules

# APS-100 Combi

Combi APS 100 E

with turbo effect

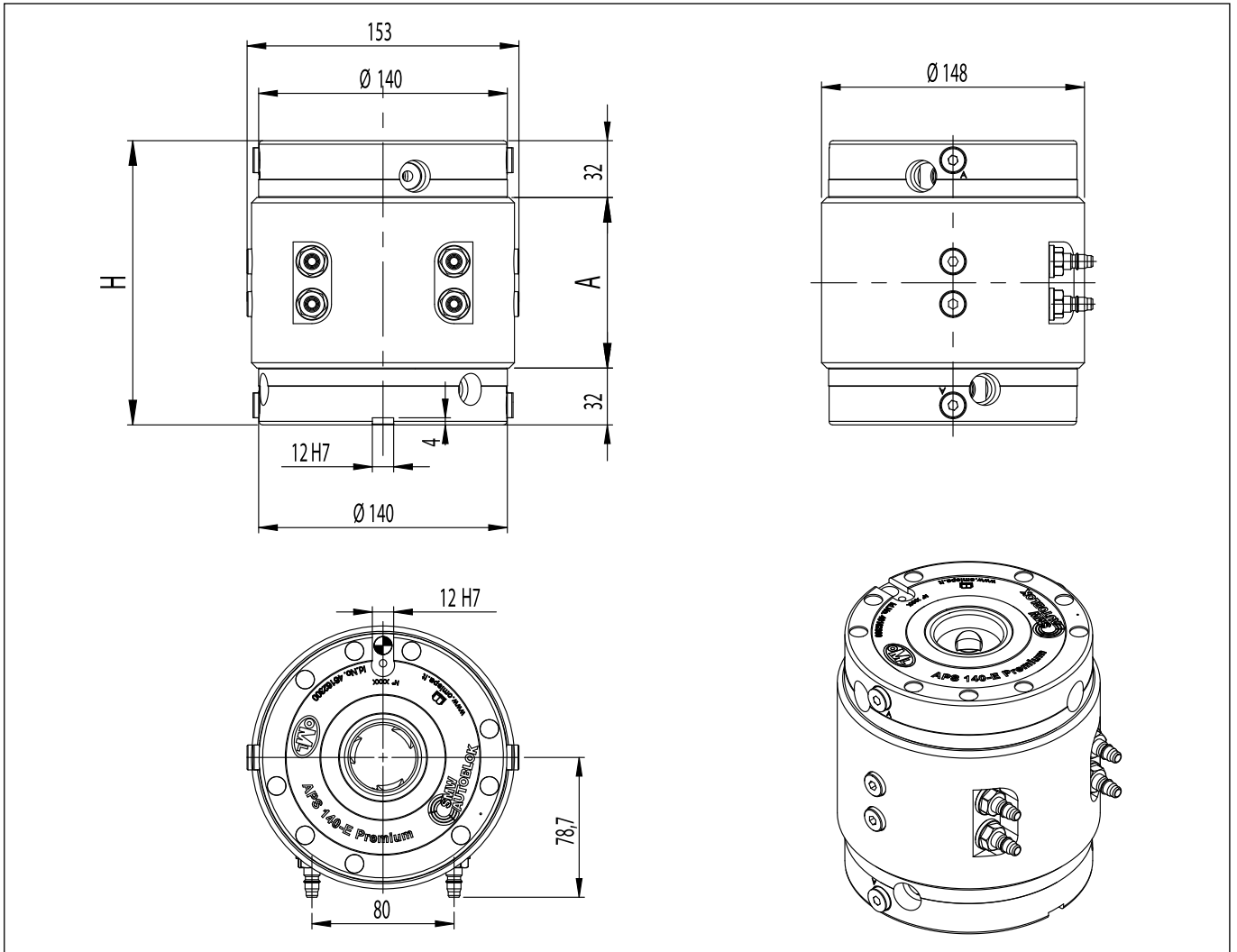


	code	A mm	H mm	weight kg
Premium	<b>46 16 83 40</b>	74	120	7
Premium	<b>46 16 83 30</b>	114	160	9



with turbo effect

Combi APS 140 E

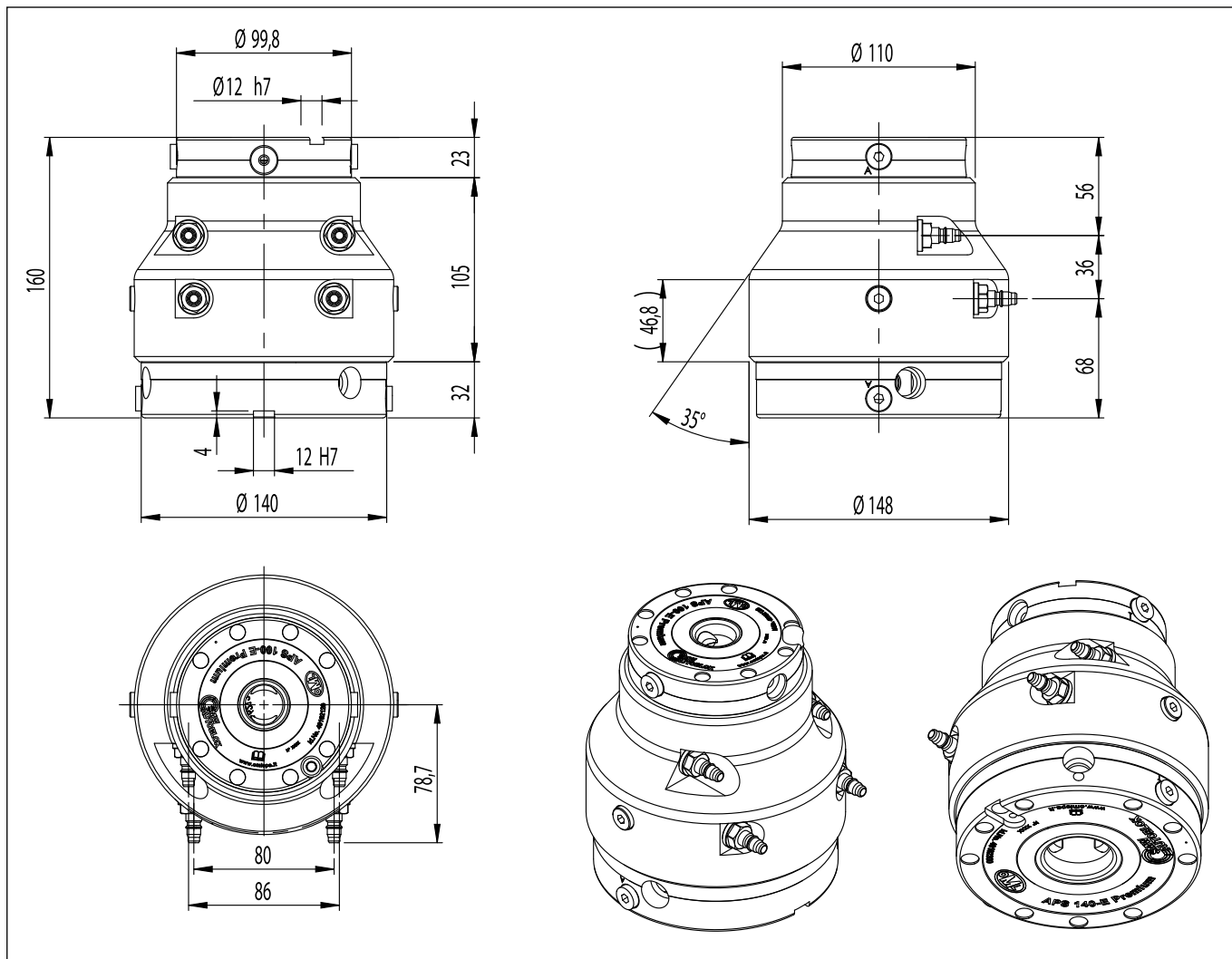


	code	A mm	H mm	weight kg
Premium	46 16 83 50	56	120	12
Premium	46 16 83 10	96	160	16

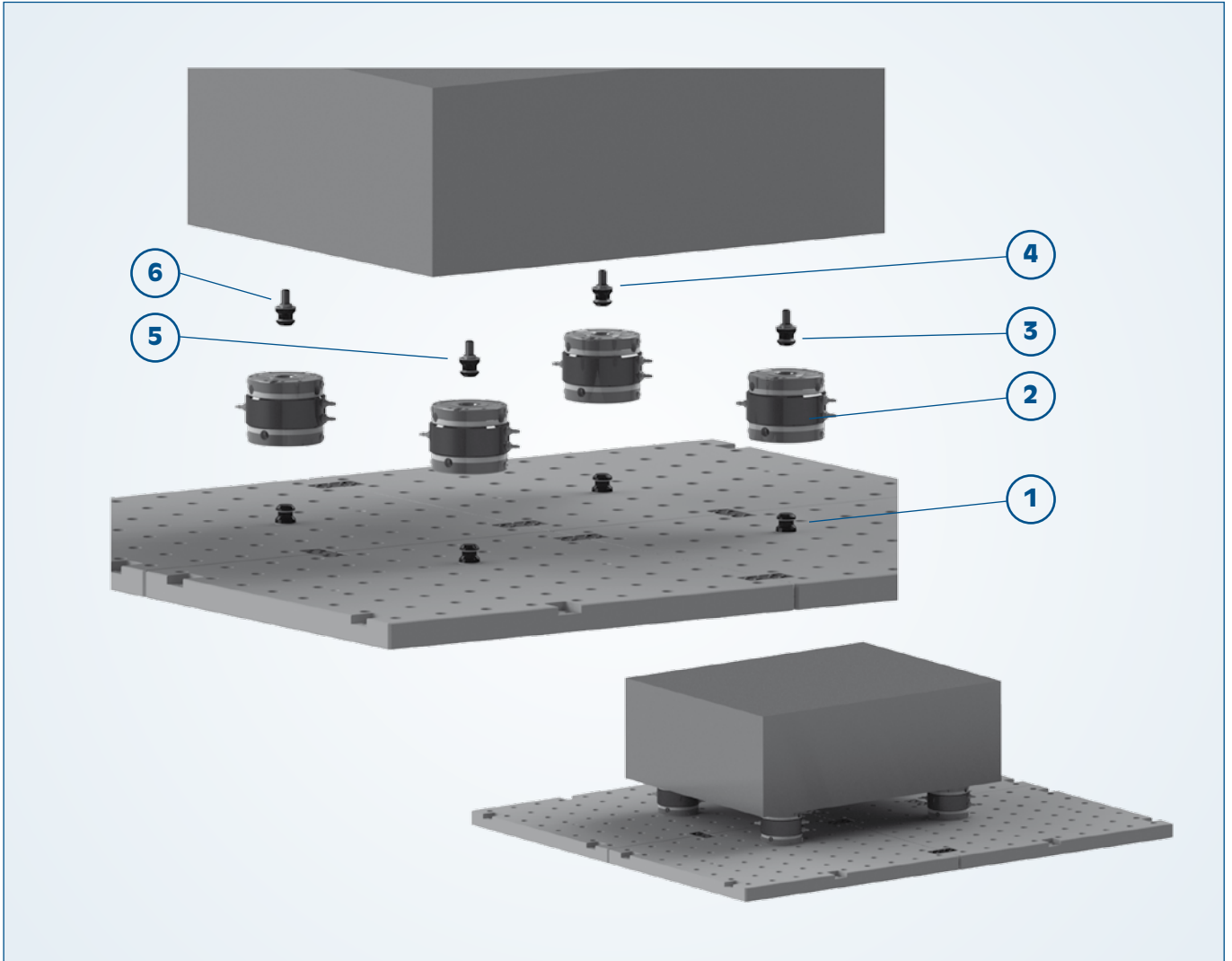
# APS-100 Combi

Combi APS 140 E / 100 E

with turbo effect



code	weight kg
46 16 83 20	14,5



01..... Pin type A  
 02..... COMBI (eX. 46168350)  
 03..... Pin type A

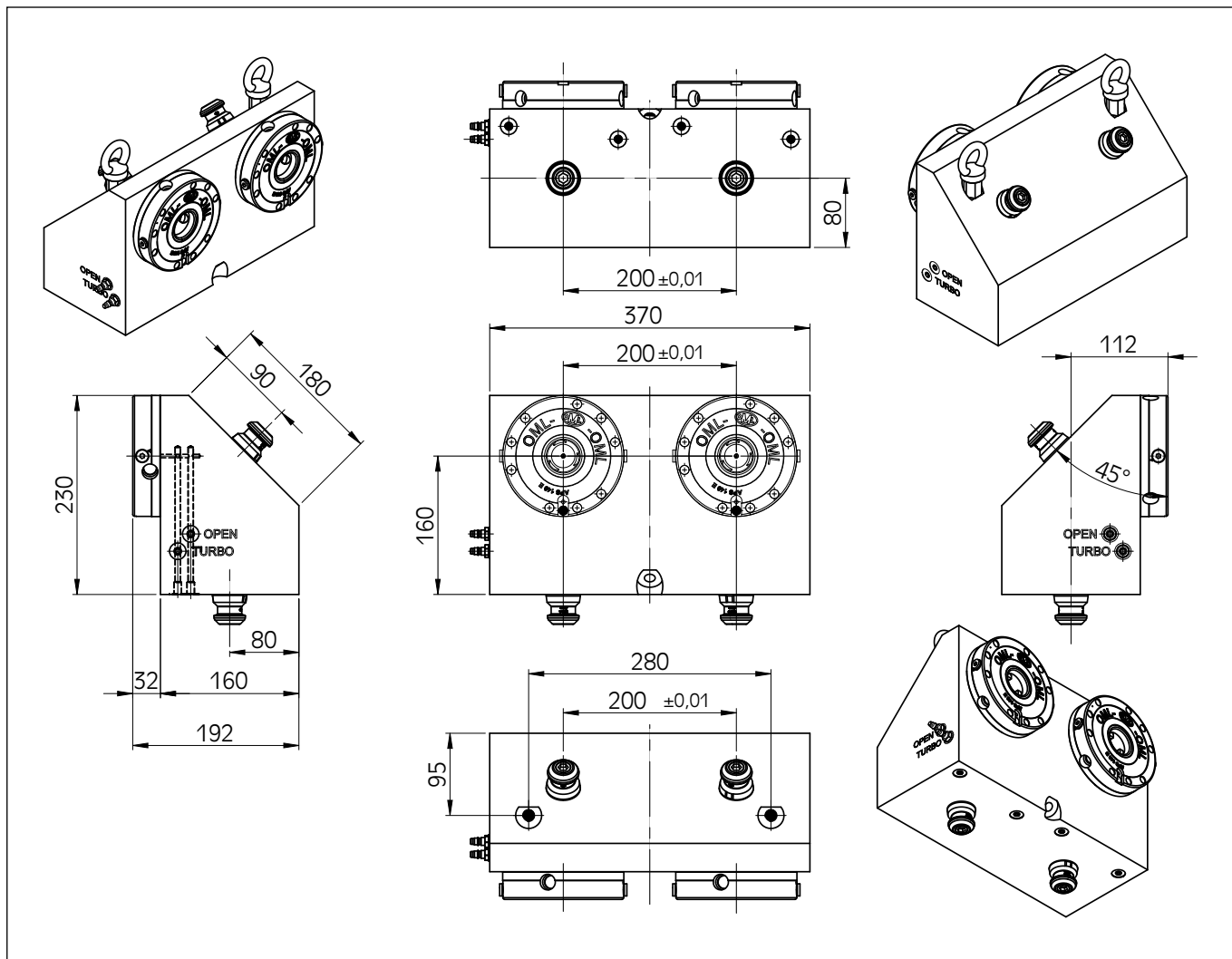
04..... Pin type C  
 05..... Pin type C  
 06..... Pin type B

# APS-140

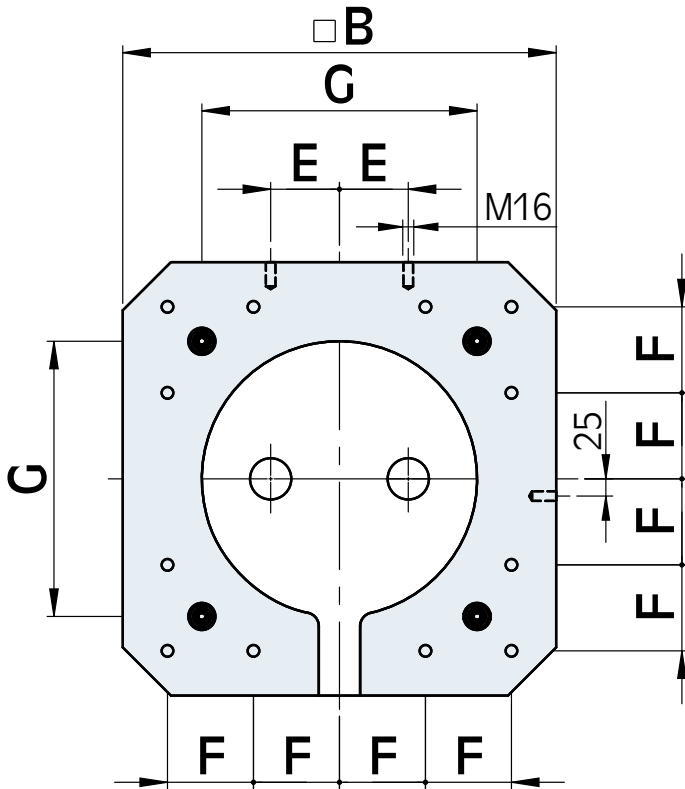
## Angle plastes

Angle plate with 2 modules APS 140 E

with turbo effect

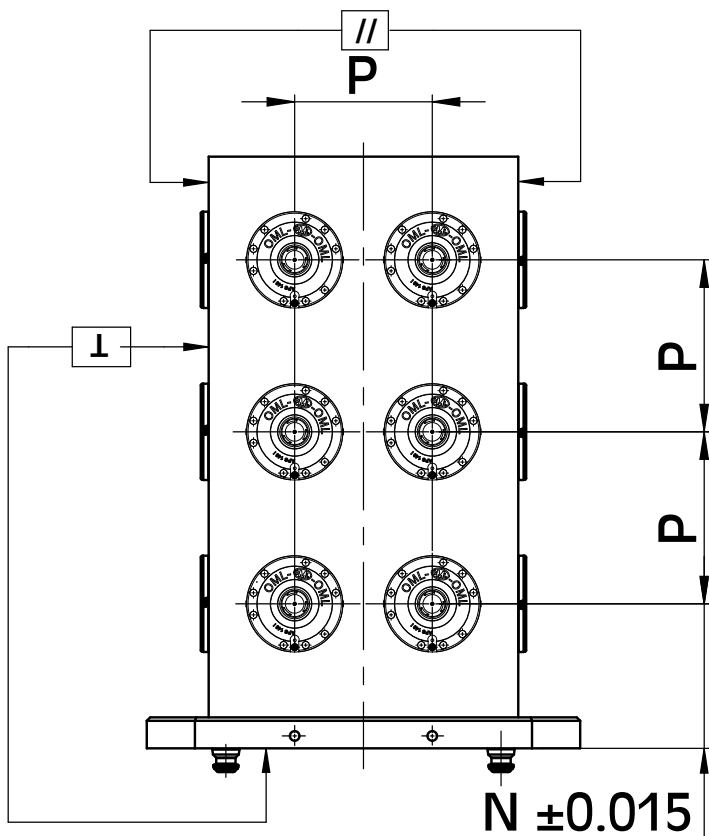


	code	weight kg
Premium	46 16 77 50	88
Basic	46 16 77 55	88



### Manufacturing tolerances

<b>⊥</b>	0,02 0,035	500 1000
<b>//</b>	0,03 0,05	500 1000
<b>P</b>	± 0,01 ± 0,02	200 300



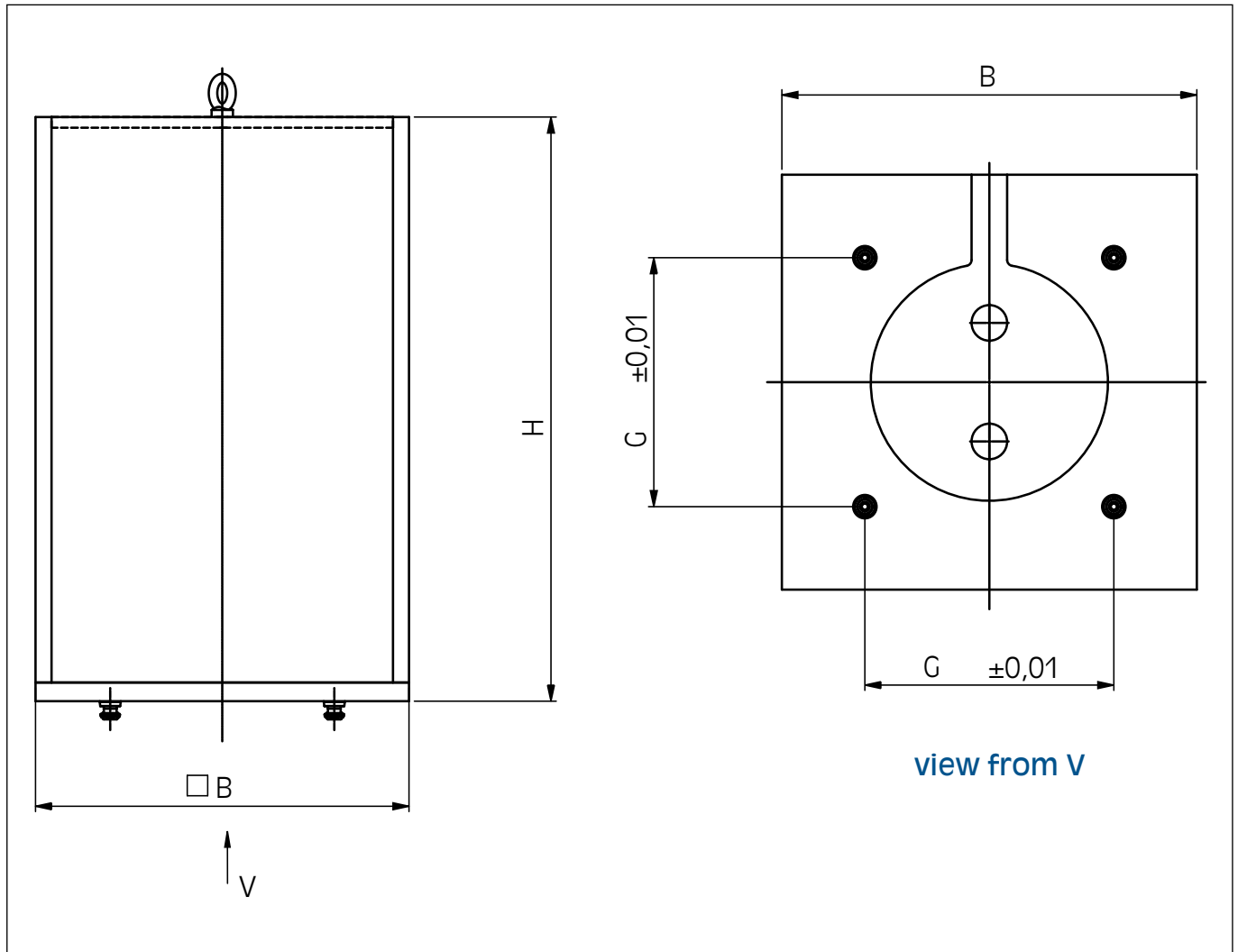
### Standard interface for machine tools pallet

<b>B</b> mm	<b>E</b> mm	<b>F</b> mm	<b>G</b> mm
400	55	80	250
500	75	100	300
630	100	125	420

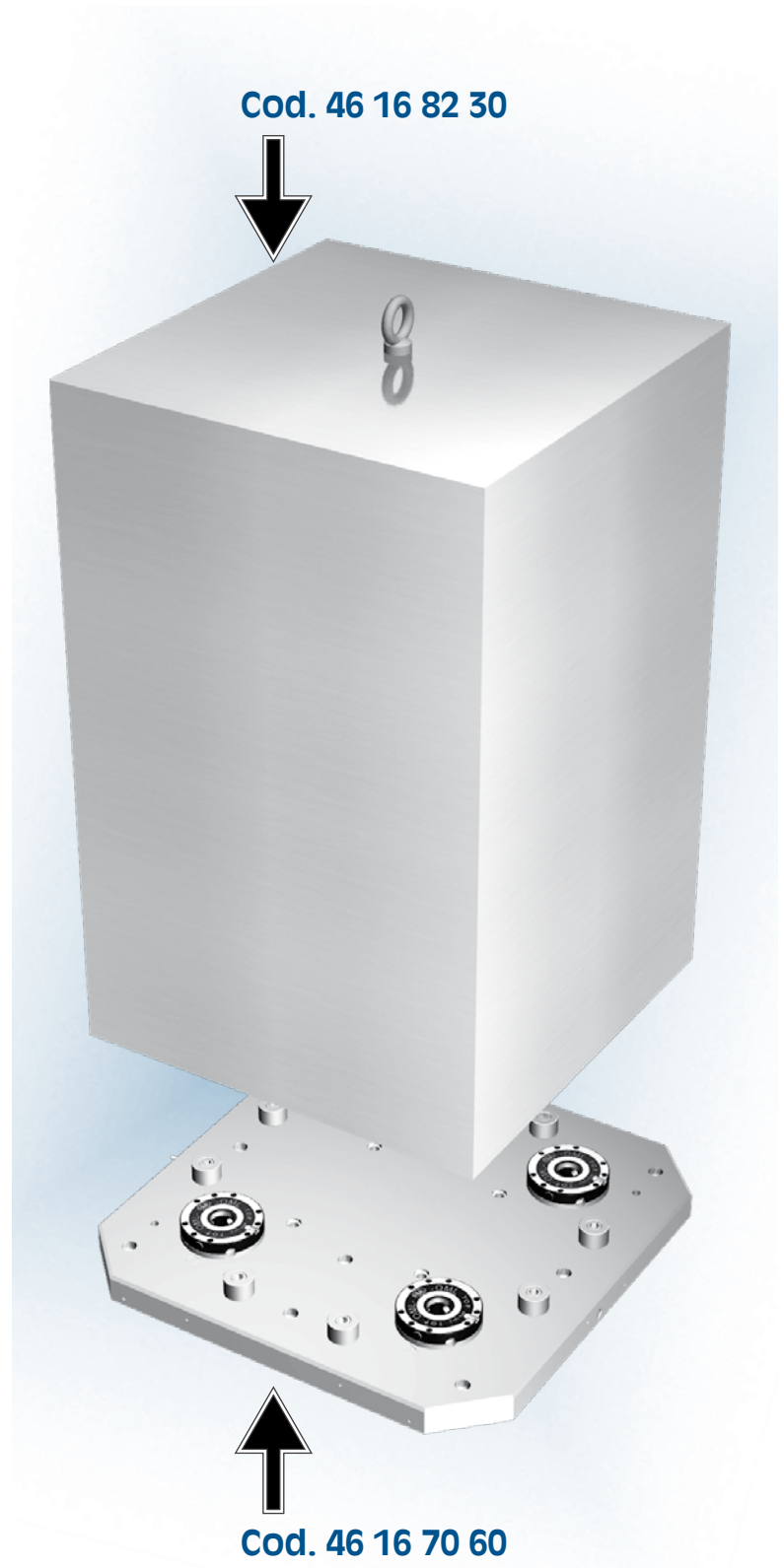
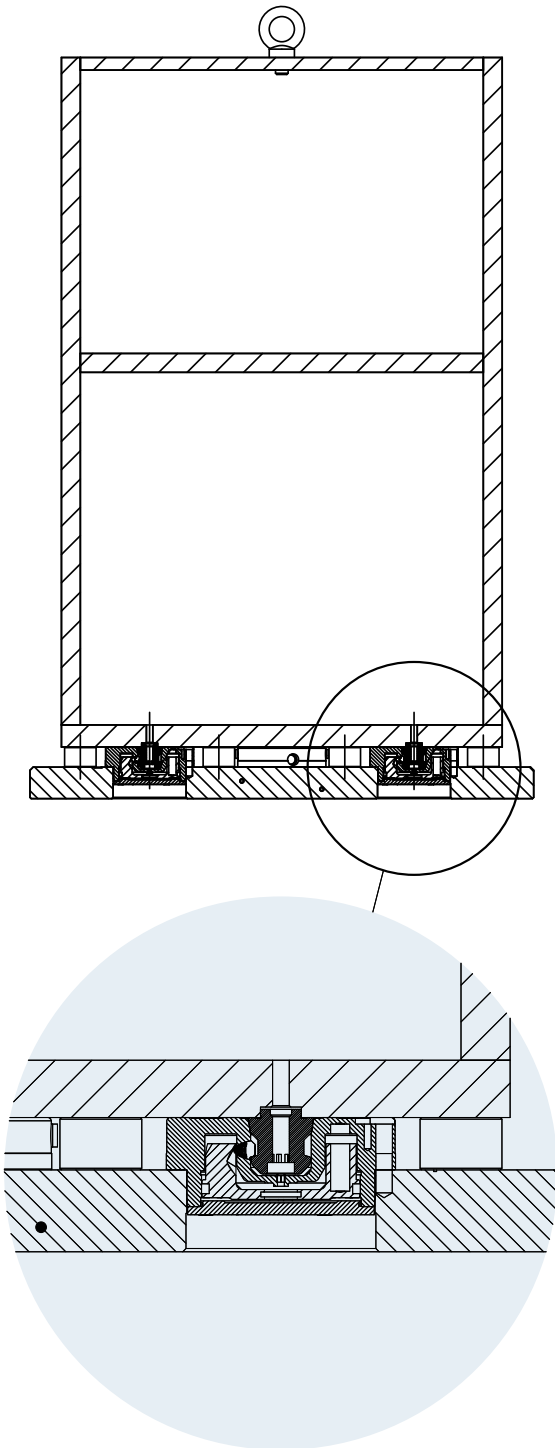
# APS-140

## Tombstones

Special rough milled tombstone



code	B mm	G mm	H mm	weight kg
<b>46 16 77 70</b>	404	250	600	280
<b>46 16 77 80</b>	504	250	700	430
<b>46 16 77 90</b>	634	420	800	650

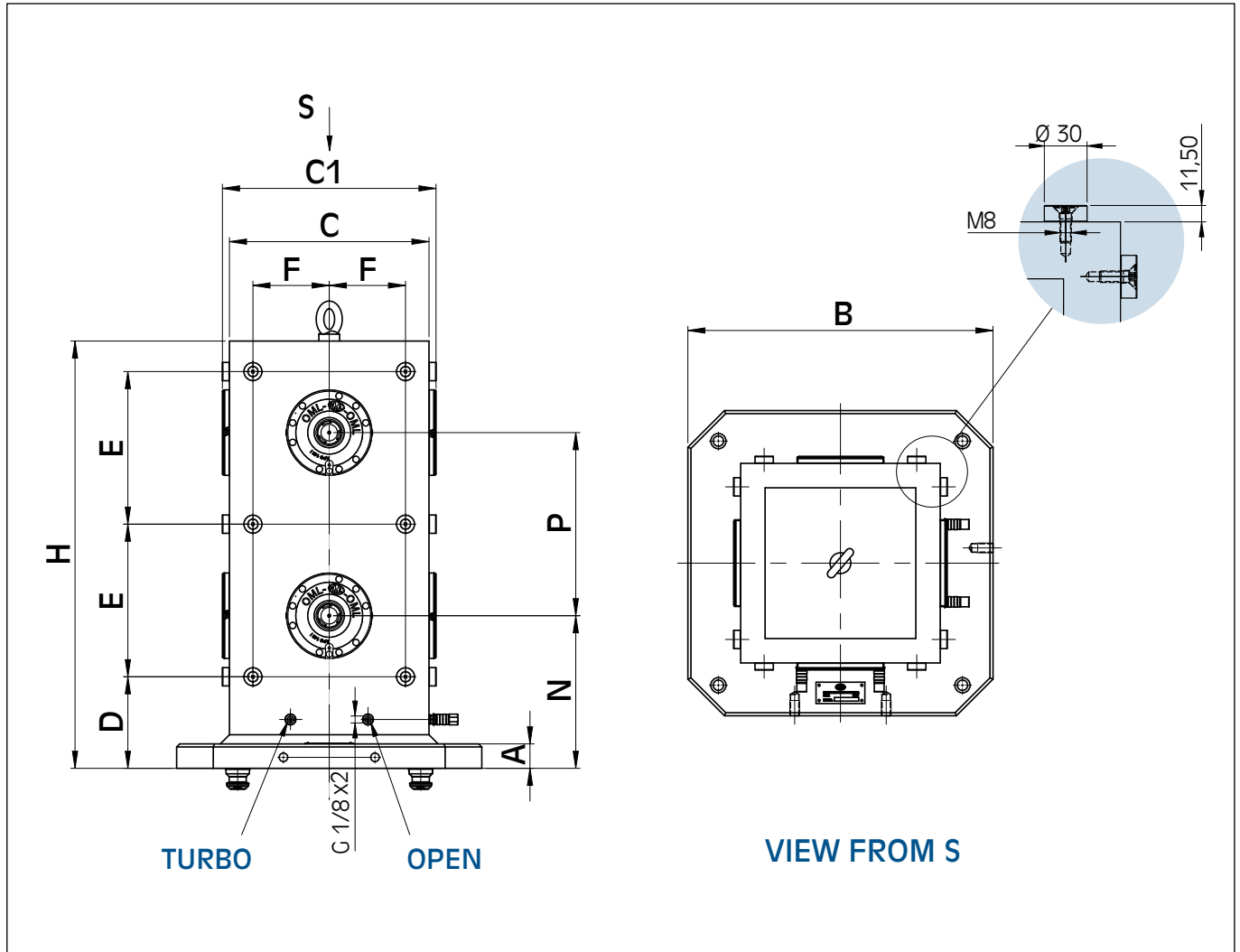


# APS-140 Tombstones

Tombstone with 8 modules APS 140-I

with turbo effect

Clamping / unclamping the modules  
on the same face is simultaneous



	code	A mm	B mm	C mm	H mm	P mm	N mm	C1 mm	D mm	E mm	F mm	weight kg
STEEL	46 16 71 10	40	400	250	600	250	225	273	125	225	100	195
	46 16 71 20	40	500	350	700	300	250	373	150	250	125	328
ALUMINIUM	46 16 71 40	40	400	250	600	250	225	273	125	225	100	90
	46 16 71 50	40	500	350	700	300	300	373	150	250	125	137
CAST IRON	46 16 71 70	40	400	250	600	250	225	273	125	225	100	190
	46 16 71 80	40	500	350	700	300	300	373	150	250	125	315



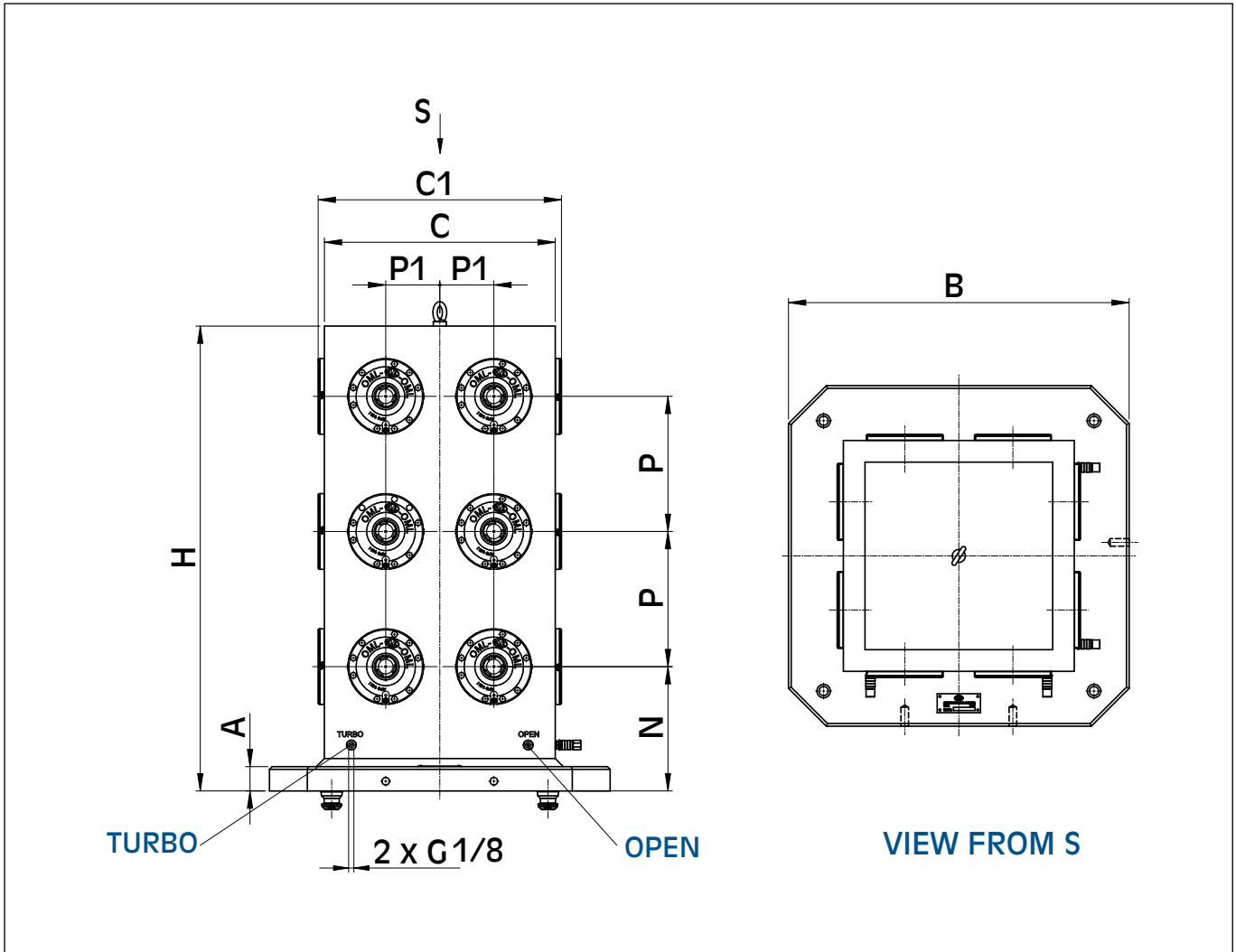
# APS-140 Tombstones

0

with turbo effect

Tombstone with 24 modules APS 140-I

**Clamping / unclamping the modules  
on the same face is simultaneous**



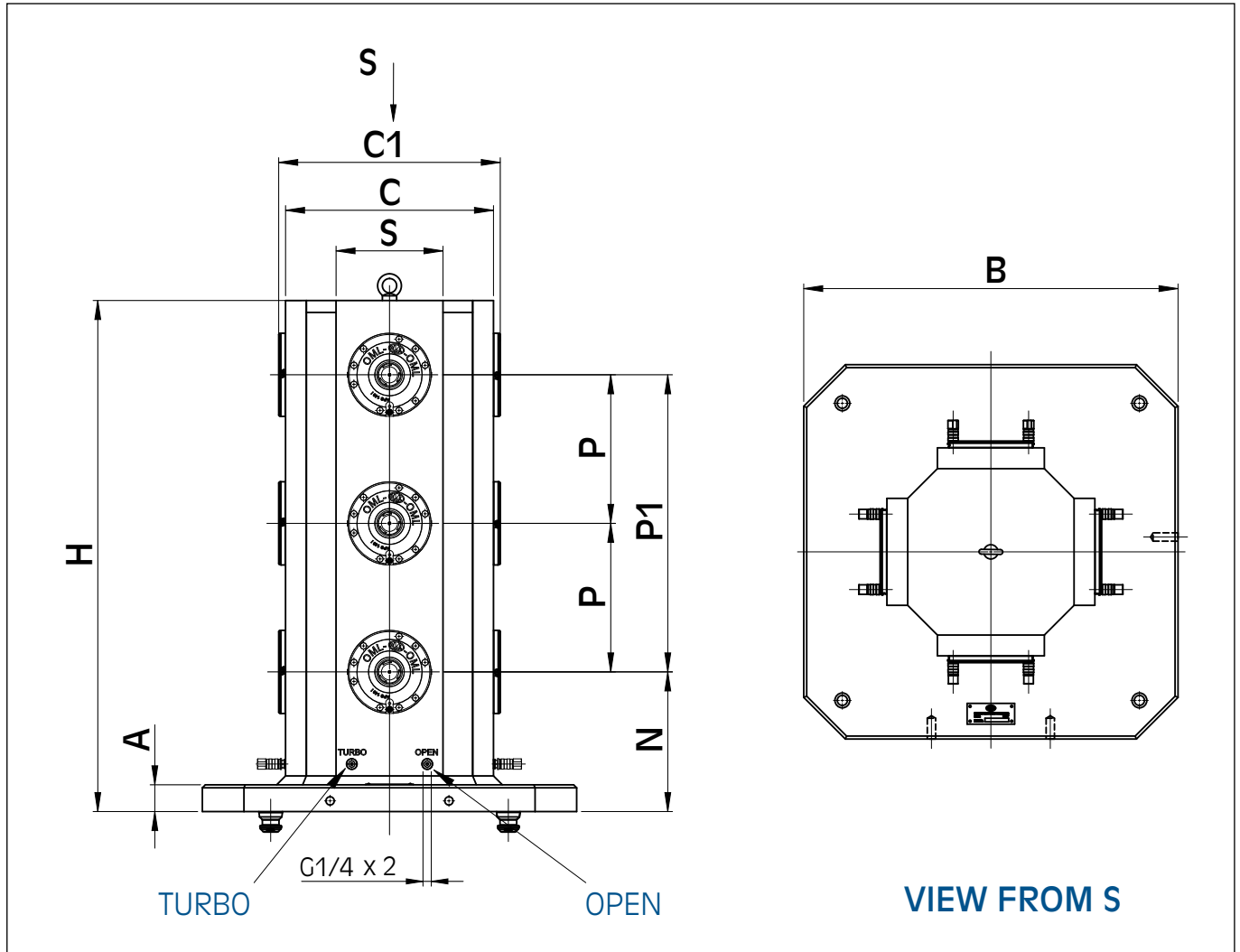
	code	A mm	B mm	P1 mm	C mm	C1 mm	H mm	P mm	N mm	weight kg
STEEL	46 16 71 30	45	630	100	450	473	860	250	230	565
ALUMINIUM	46 16 71 60	45	630	100	450	473	860	250	230	280
CAST IRON	46 16 71 90	45	630	100	450	473	860	250	230	550

# APS-140 Tombstones

Tombstone with 12 modules APS 140-I

with turbo effect

Clamping / unclamping the modules  
on the same face is simultaneous



	code	A mm	B mm	C mm	H mm	P mm	P1 mm	C1 mm	N mm	S mm	weight kg
STEEL	46 16 72 10	40	400	280	600	-	250	303	225	150	188
	46 16 72 20	40	500	300	690	-	250	323	235	150	222
	46 16 72 30	45	630	350	860	250	500	373	235	180	365

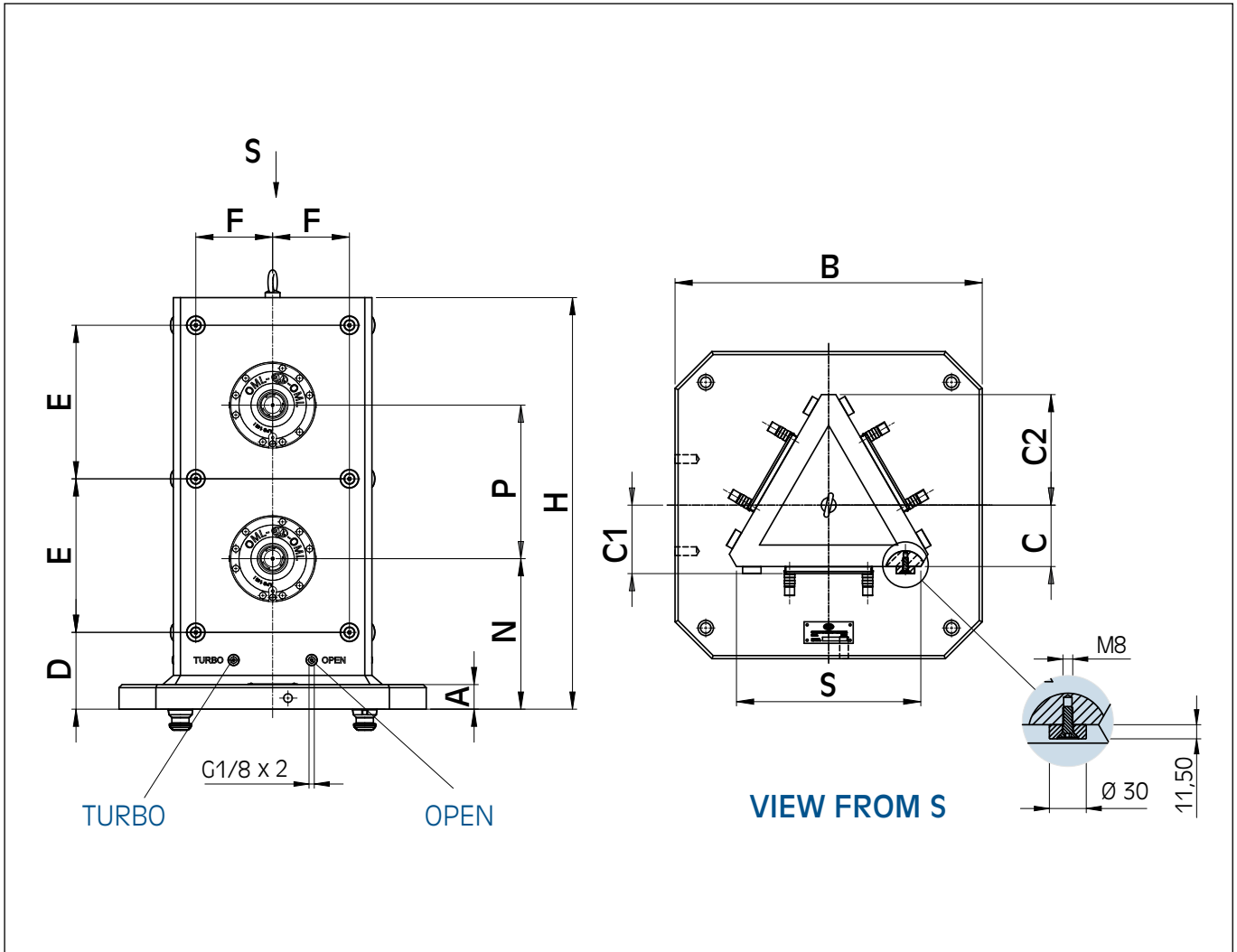
# APS-140 Tombstones

0

with turbo effect

Tombstone with 6 modules APS 140-I

Clamping / unclamping the modules  
on the same face is simultaneous



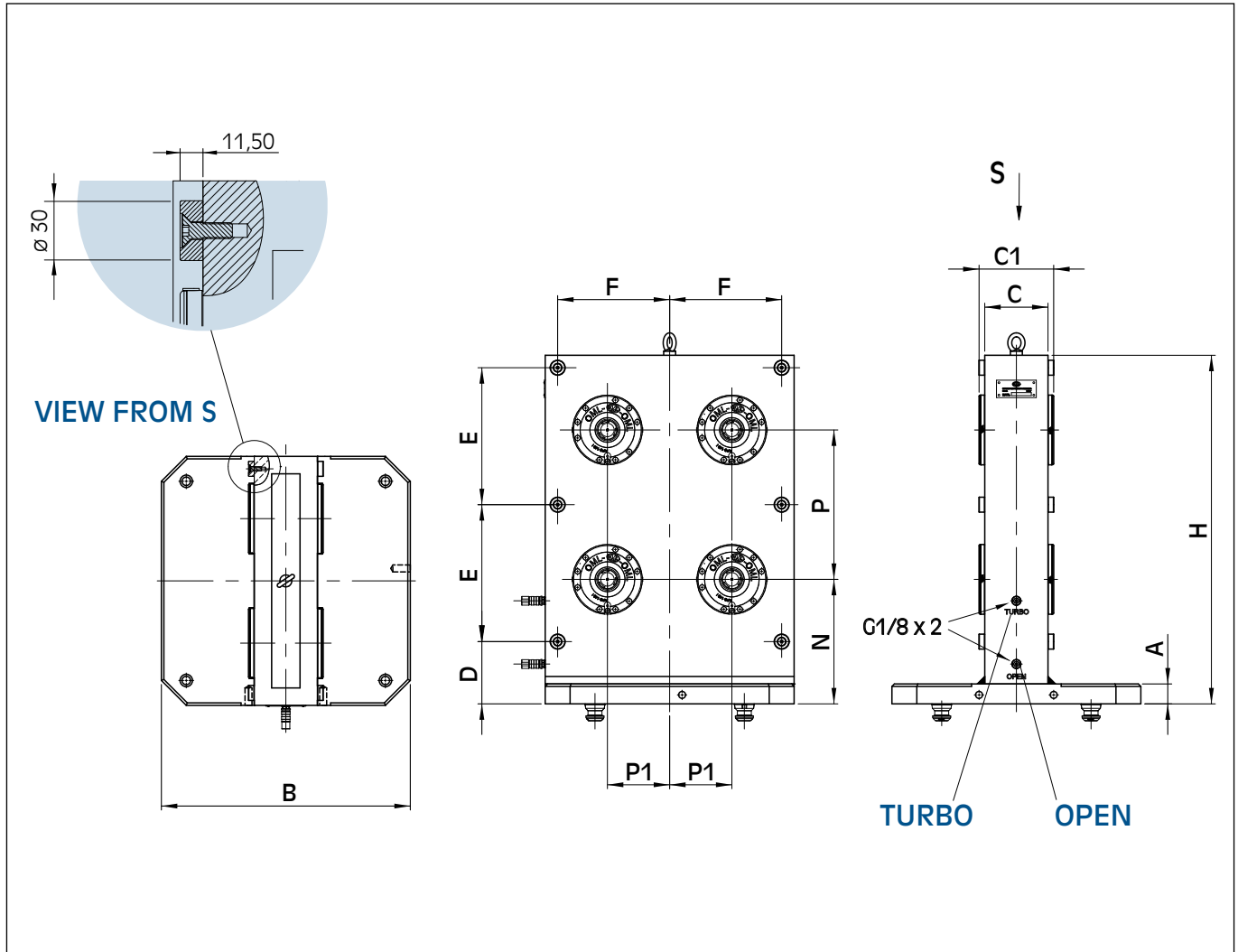
	code	A mm	B mm	H mm	P mm	N mm	C mm	E mm	F mm	D mm	C1 mm	C2 mm	S mm	weight kg
STEEL	46 16 72 40	40	400	600	250	225	100	225	125	125	111,5	180	300	200
	46 16 72 50	40	500	660	250	245	100	250	125	125	111,5	180	300	227

# APS-140 Crankwebs

Crankweb with 8 modules APS 140-I

with turbo effect

**Clamping / unclamping the modules  
on the same face is simultaneous**

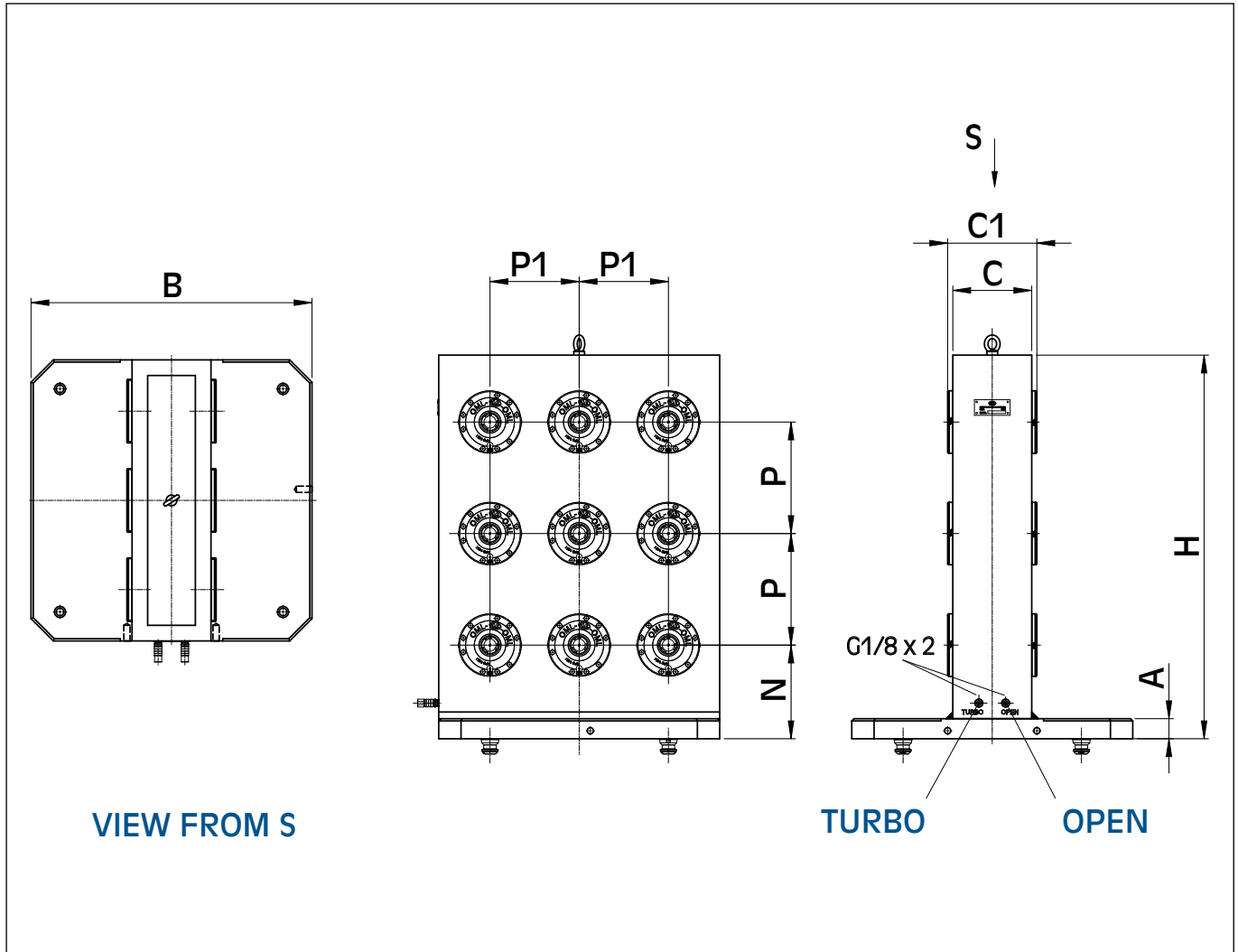


	code	A mm	B mm	C mm	H mm	P mm	P1 mm	N mm	C1 mm	D mm	E mm	F mm	weight kg
STEEL	46 16 73 10	40	400	150	600	250	100	225	173	125	215	175	200
	46 16 73 20	40	500	150	700	300	125	250	173	150	275	225	290
ALUMINIUM	46 16 73 40	40	400	150	600	250	100	225	173	125	215	175	90
	46 16 73 50	40	500	150	700	300	125	250	173	150	275	225	120
CAST IRON	46 16 73 70	40	400	150	600	250	100	225	173	125	215	175	185
	46 16 73 80	40	500	150	700	300	125	250	173	150	275	225	270

with turbo effect

Crankweb with 18 modules APS 140-I

**Clamping / unclamping the modules  
on the same face is simultaneous**

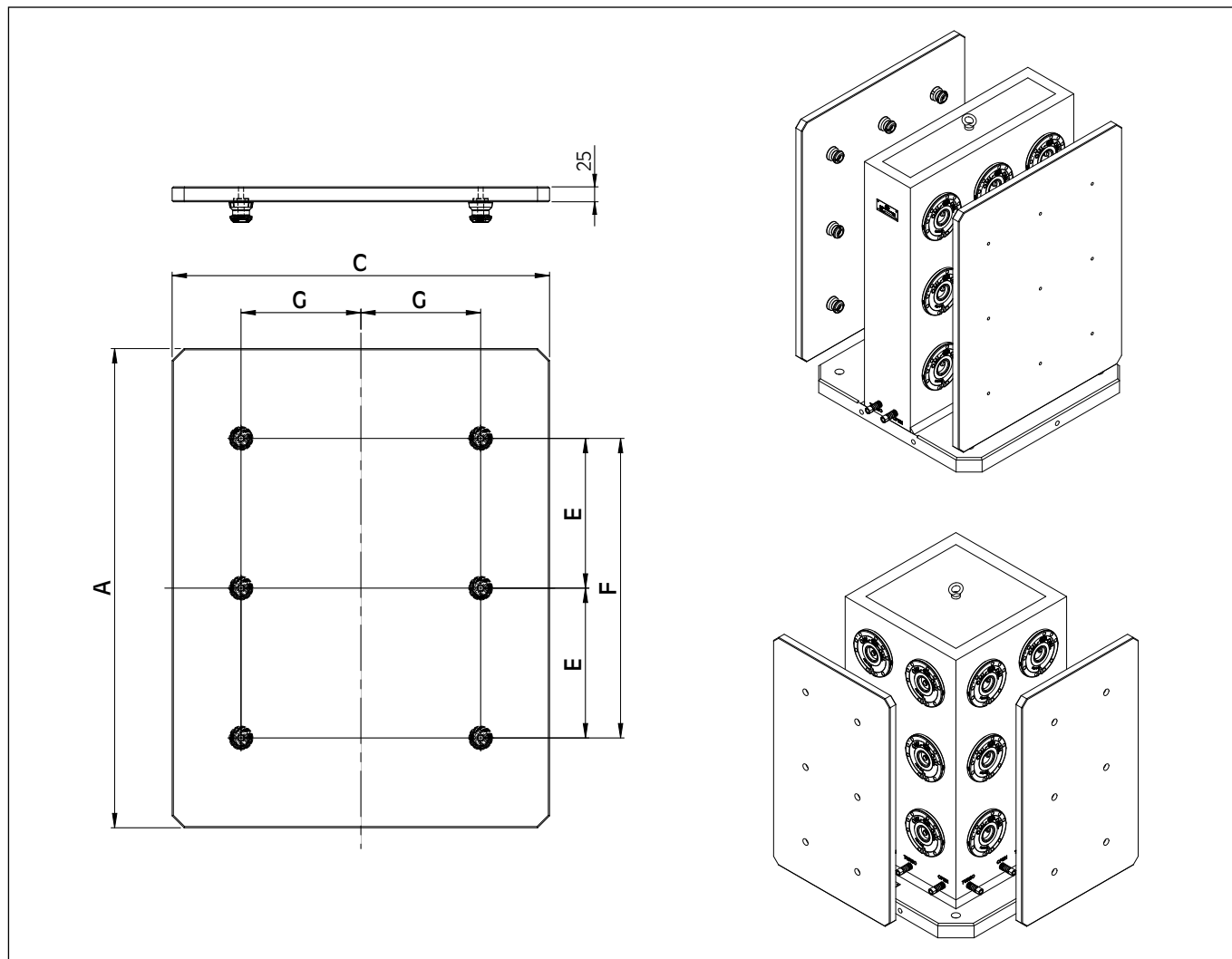


	code	A mm	B mm	P1 mm	C mm	C1 mm	H mm	P mm	N mm	weight kg
STEEL	<b>46 16 73 30</b>	45	630	200	200	223	860	250	230	495
ALUMINIUM	<b>46 16 73 60</b>	45	630	200	200	223	860	250	230	230
CAST IRON	<b>46 16 73 90</b>	45	630	200	200	223	860	250	230	480

# APS-140

## Steel smooth plates

Smooth plate for APS 140



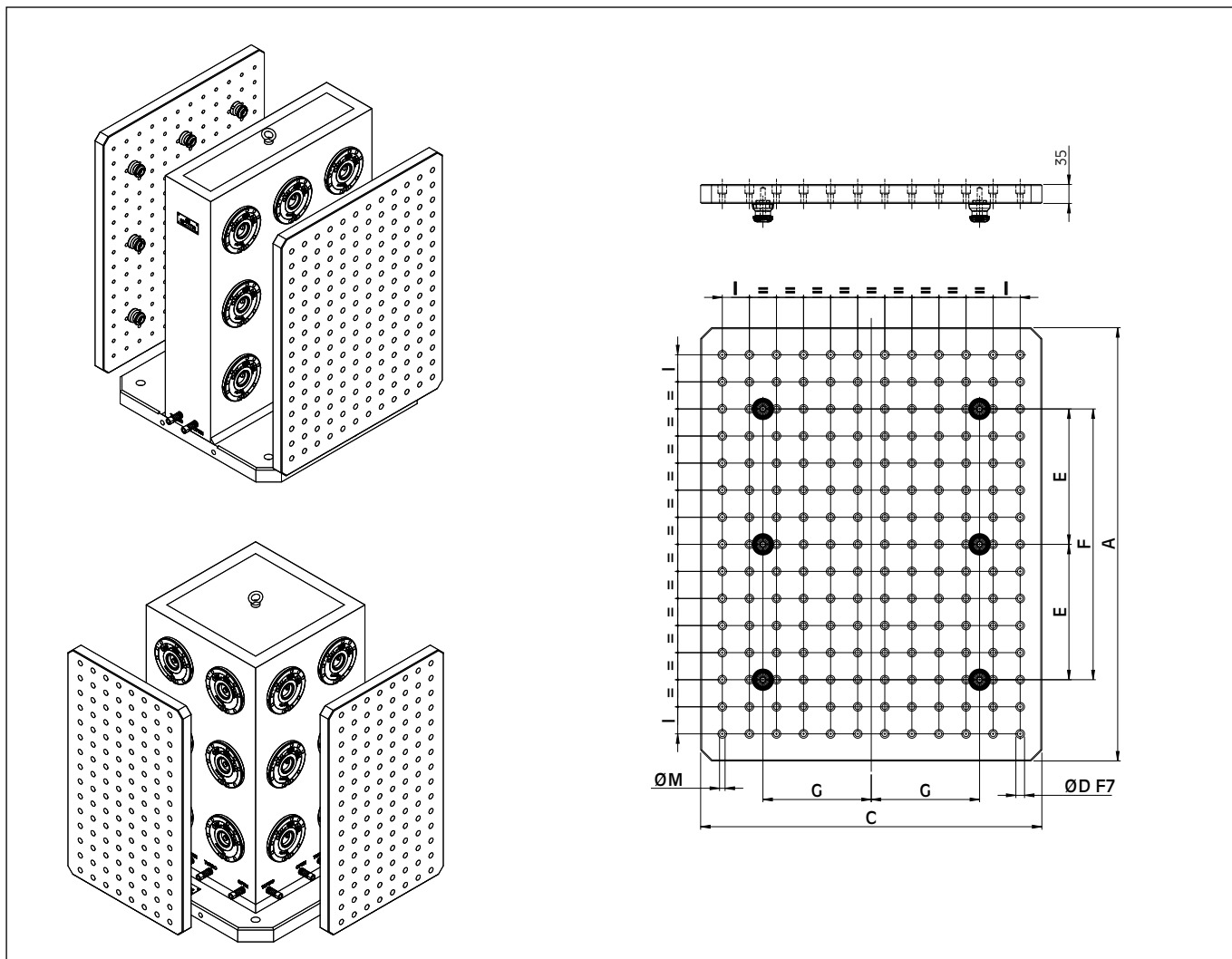
	code	A mm	C mm	E mm	F mm	G mm	weight kg
FOR TOMBSTONES	46 16 74 10	500	250	-	250	-	25
	46 16 74 20	600	350	-	300	-	42
	46 16 74 30	760	450	250	500	100	67
FOR CRANKWEBS	46 16 74 40	500	400	-	250	100	48
	46 16 74 50	600	500	-	300	125	60
	46 16 74 60	800	630	250	500	200	98

# APS-140

## Steel plates with grid

0

Plate with grid for APS 140



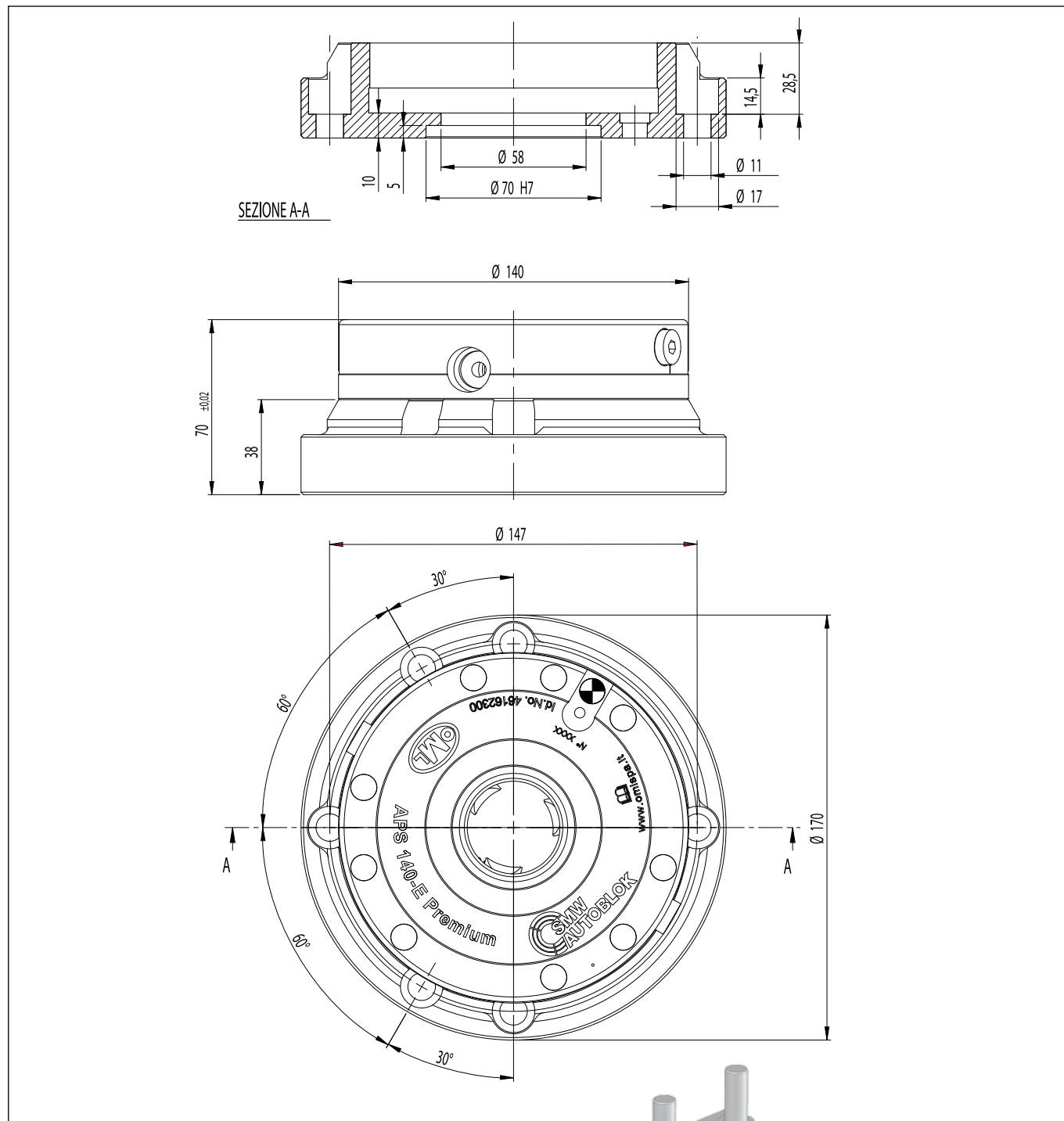
	code	A mm	C mm	E mm	F mm	G mm	I mm	ØM mm	ØD mm	weight kg
FOR TOMBSTONES	46 16 75 10	500	250	-	250	-	50	12	16	32
	46 16 75 20	600	350	-	300		50	12	16	55
	46 16 75 30	760	450	250	500	100	50	12	16	96
FOR CRANKWEBS	46 16 75 40	500	400	-	250	100	50	12	16	64
	46 16 75 50	600	500	-	300	125	50	12	16	79
	46 16 75 60	800	630	250	500	200	50	12	16	132

# APS-140

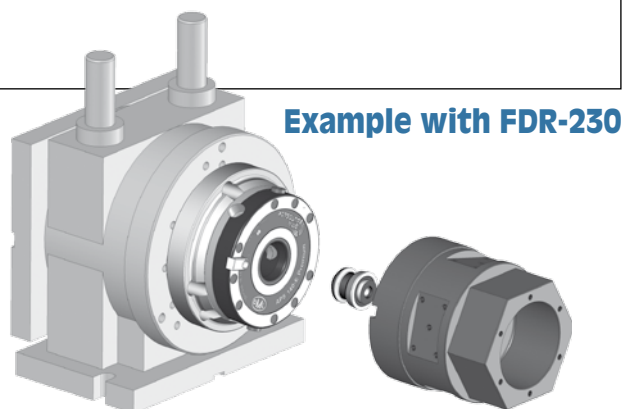
Flanges for indexing tables "touchdex" and cnc indexing tables with t slots flanges

Flange with 1 module APS 140-E for indexing tables "TOUCHDEX" FDM-150 and FD-200-04 and FD-200-360, FDM-230, FDR-230, FDM-230-360, FDR-230-360 and for orientation on indexing tables with T slots.

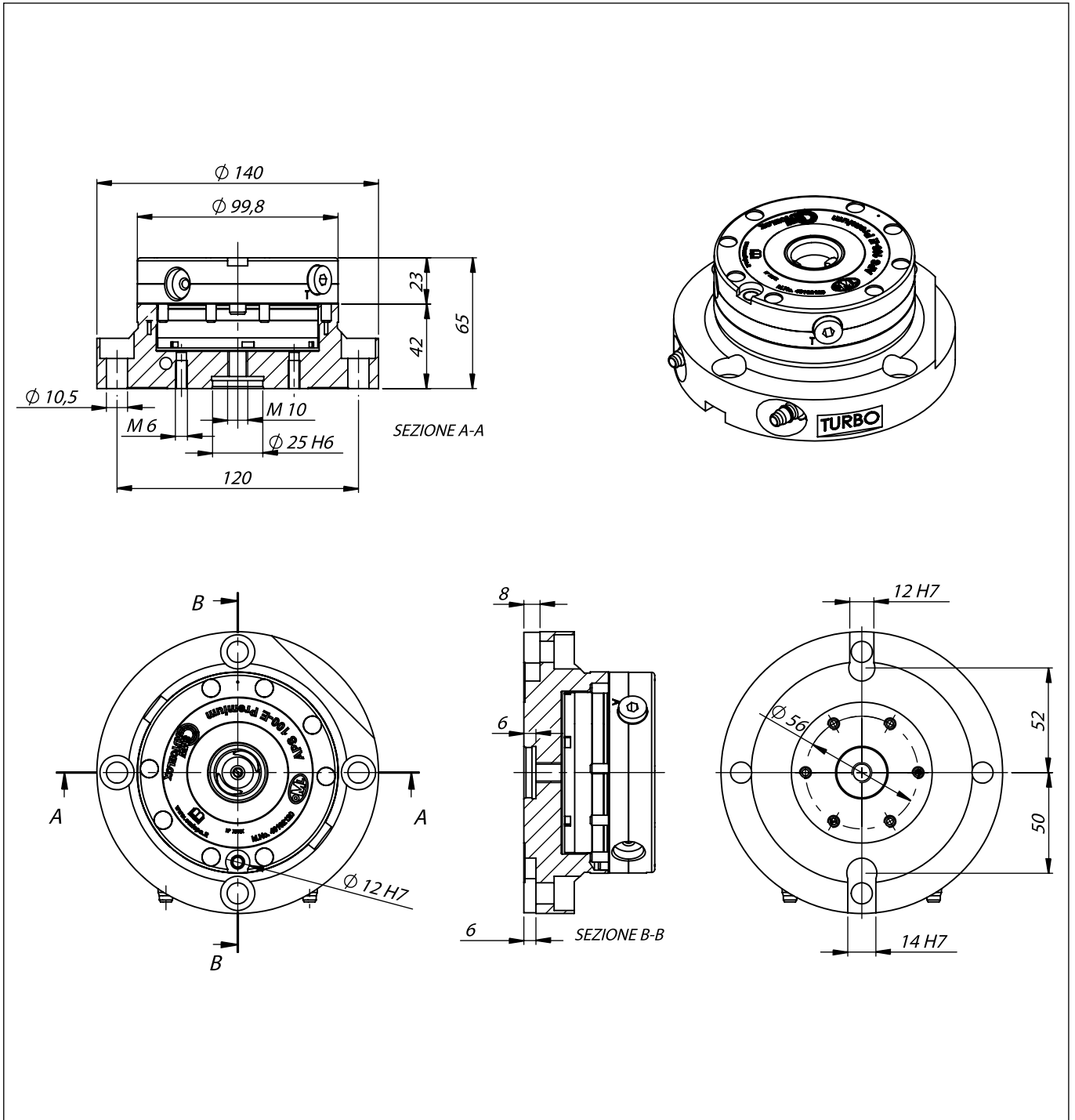
(See key ways on page 0.68)



code	weight kg
46 16 76 20	17



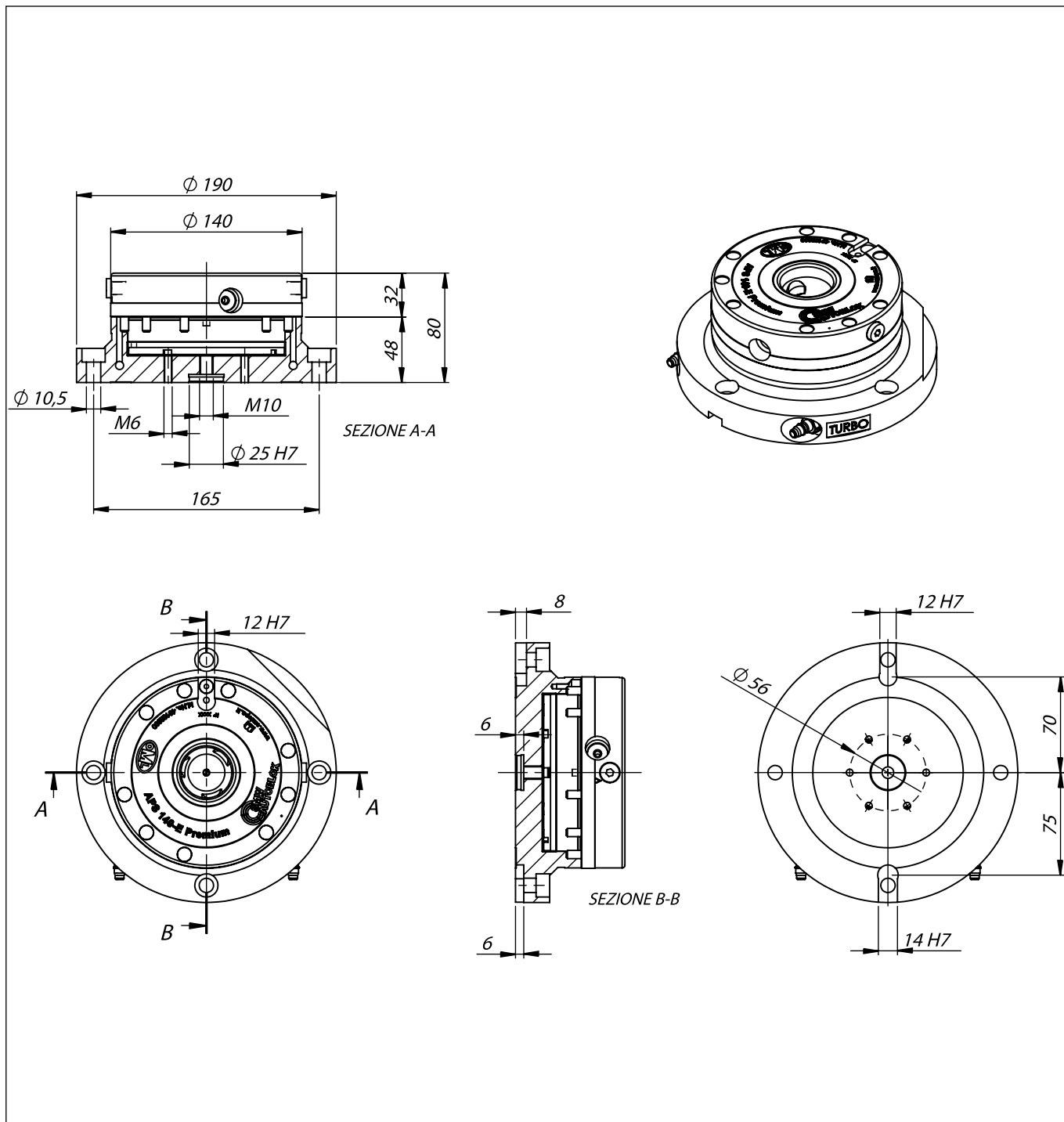




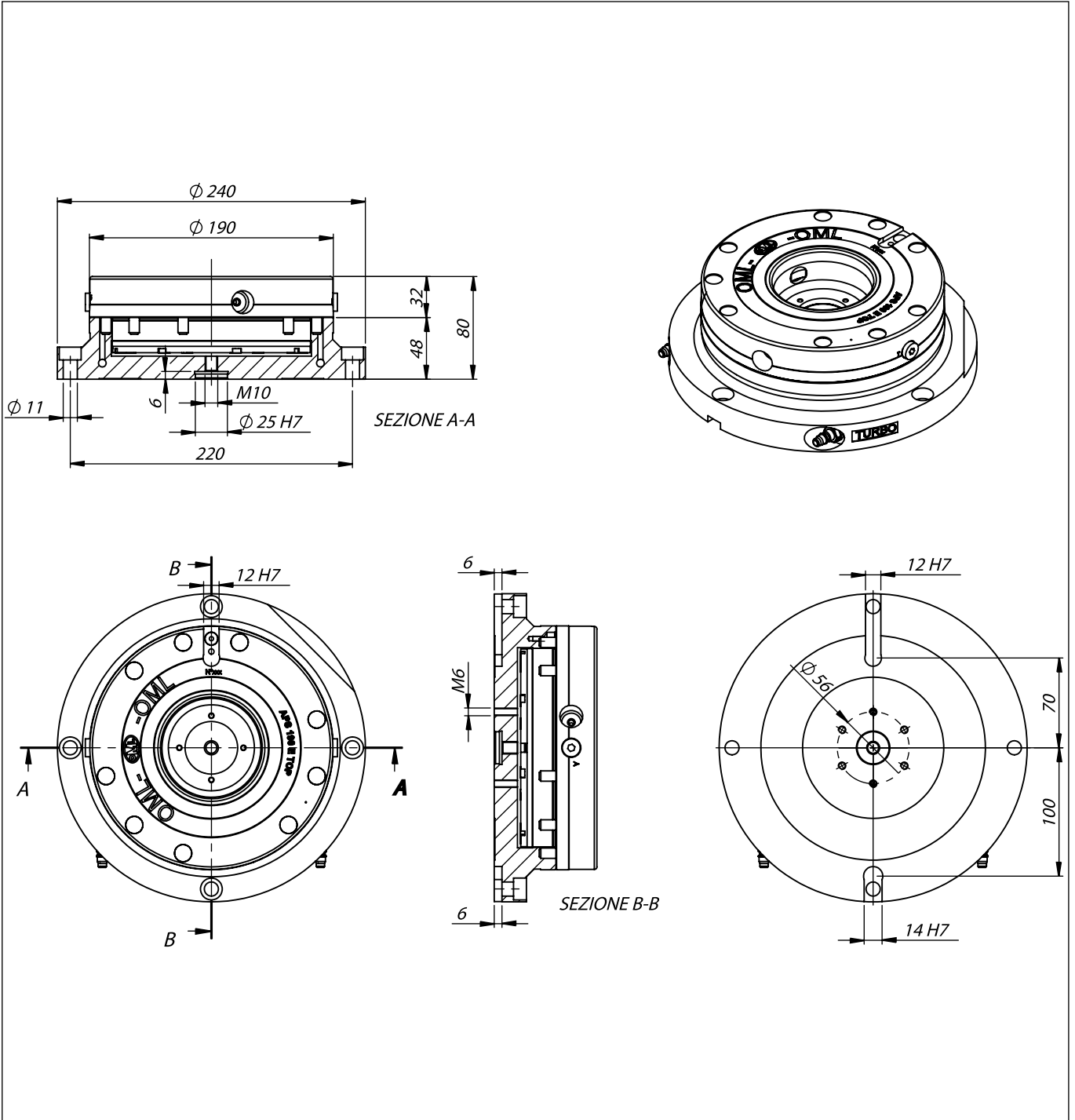
code	weight kg
<b>77 65 10 05</b>	4,5

# APS-140

Flanges for indexing tables "modular"



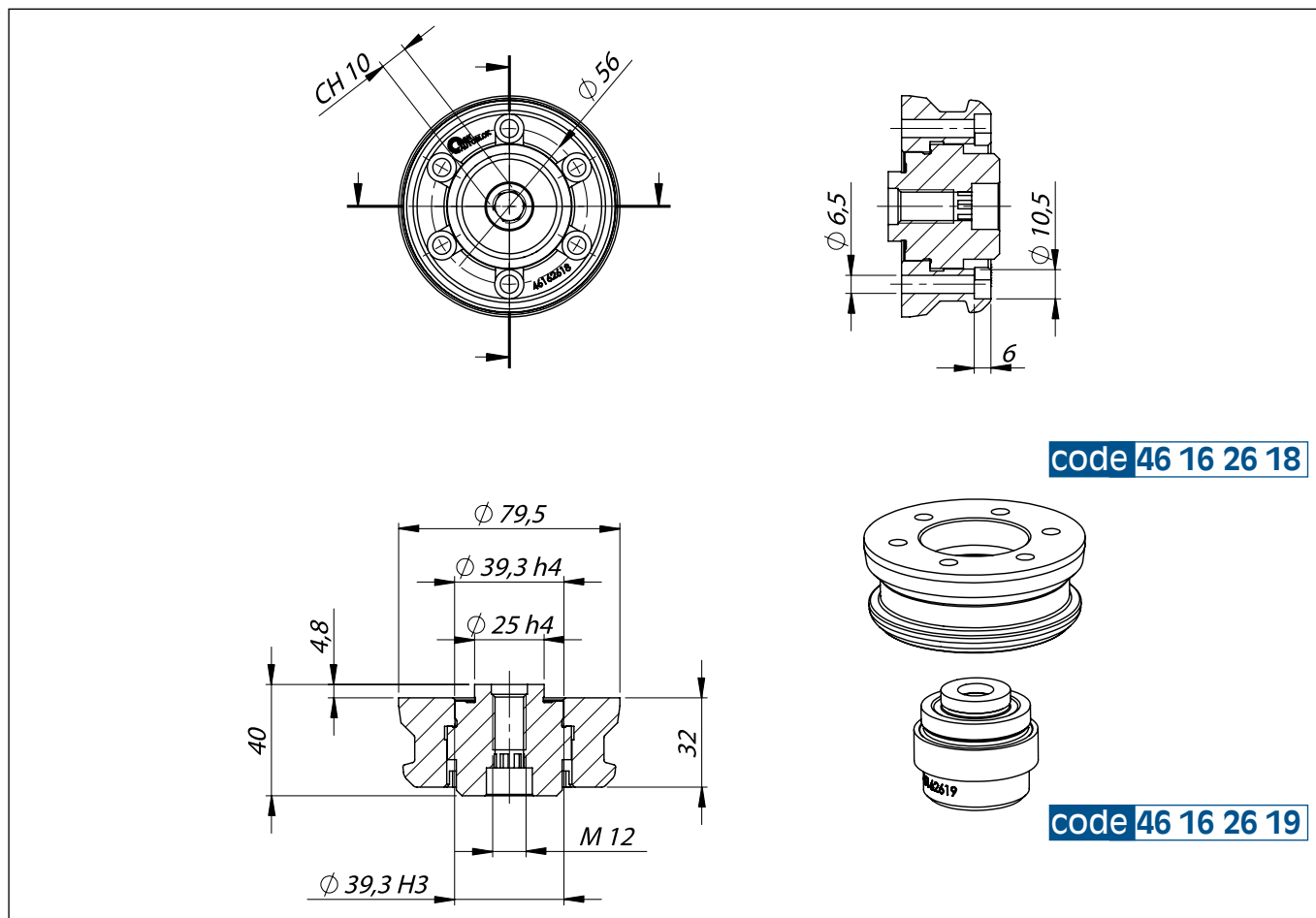
code	weight kg
<b>77 65 14 03</b>	11



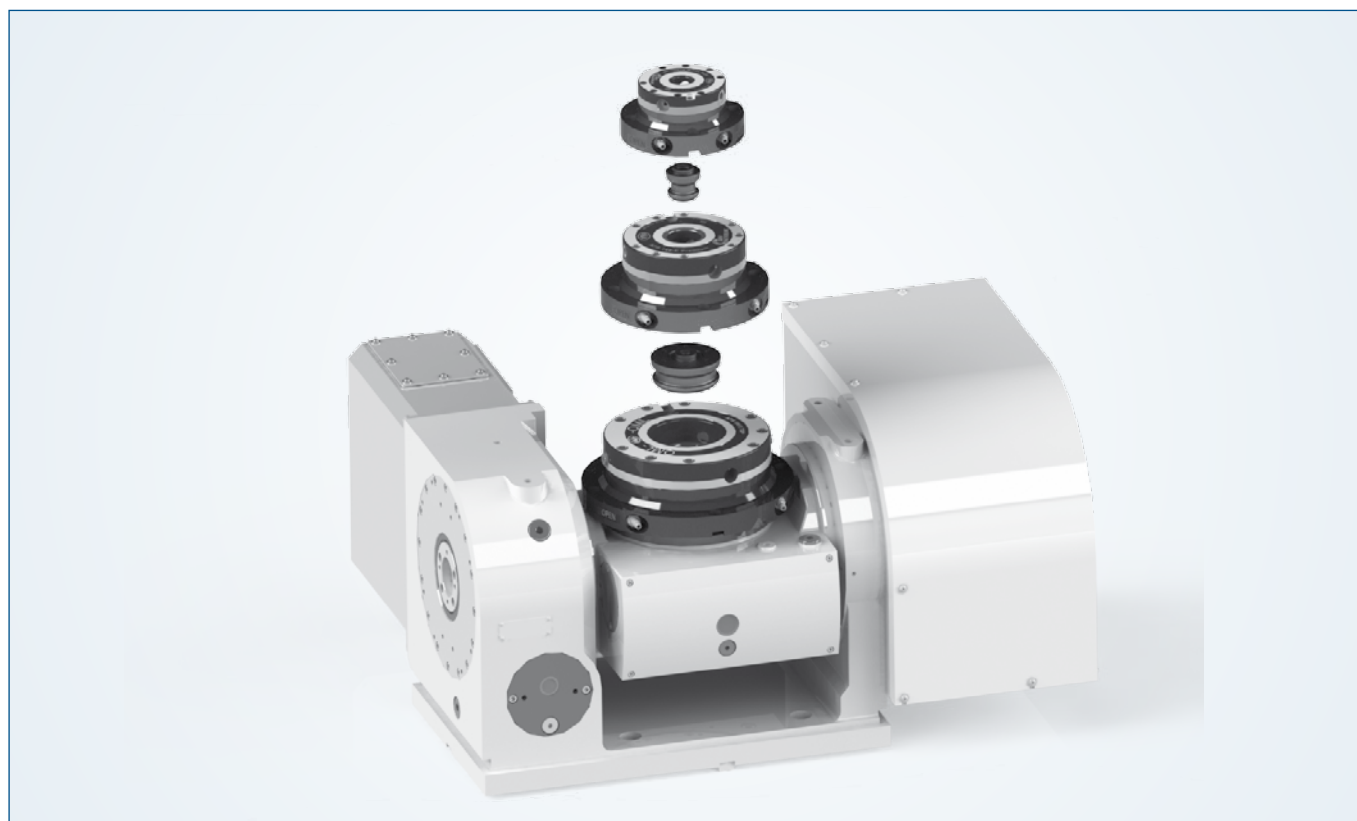
code	weight kg
<b>77 65 19 01</b>	18

# APS-190

## Pin APS 190 "modular"



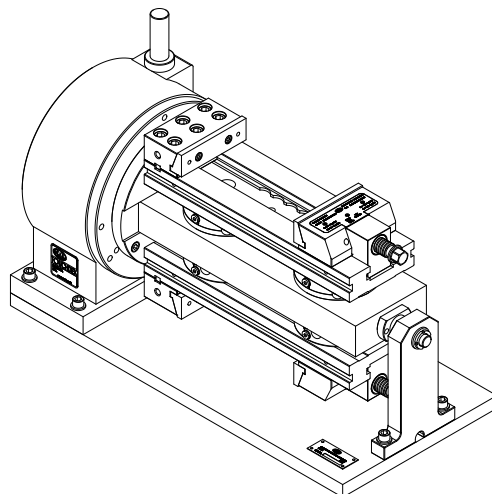
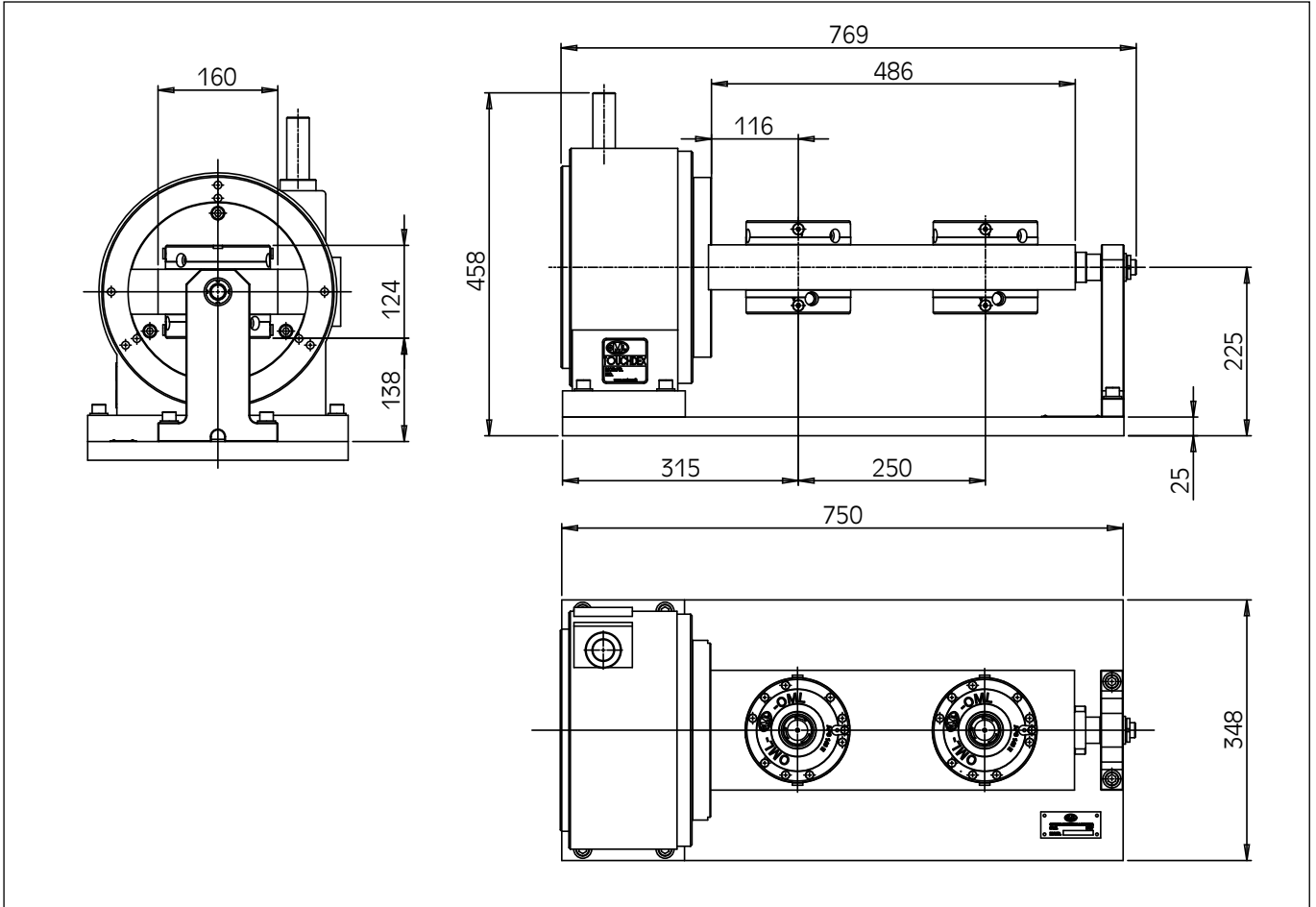
## Working Examples



# APS-140 Combidex APS

0

COMBIDEX with 4 modules APS 140-E



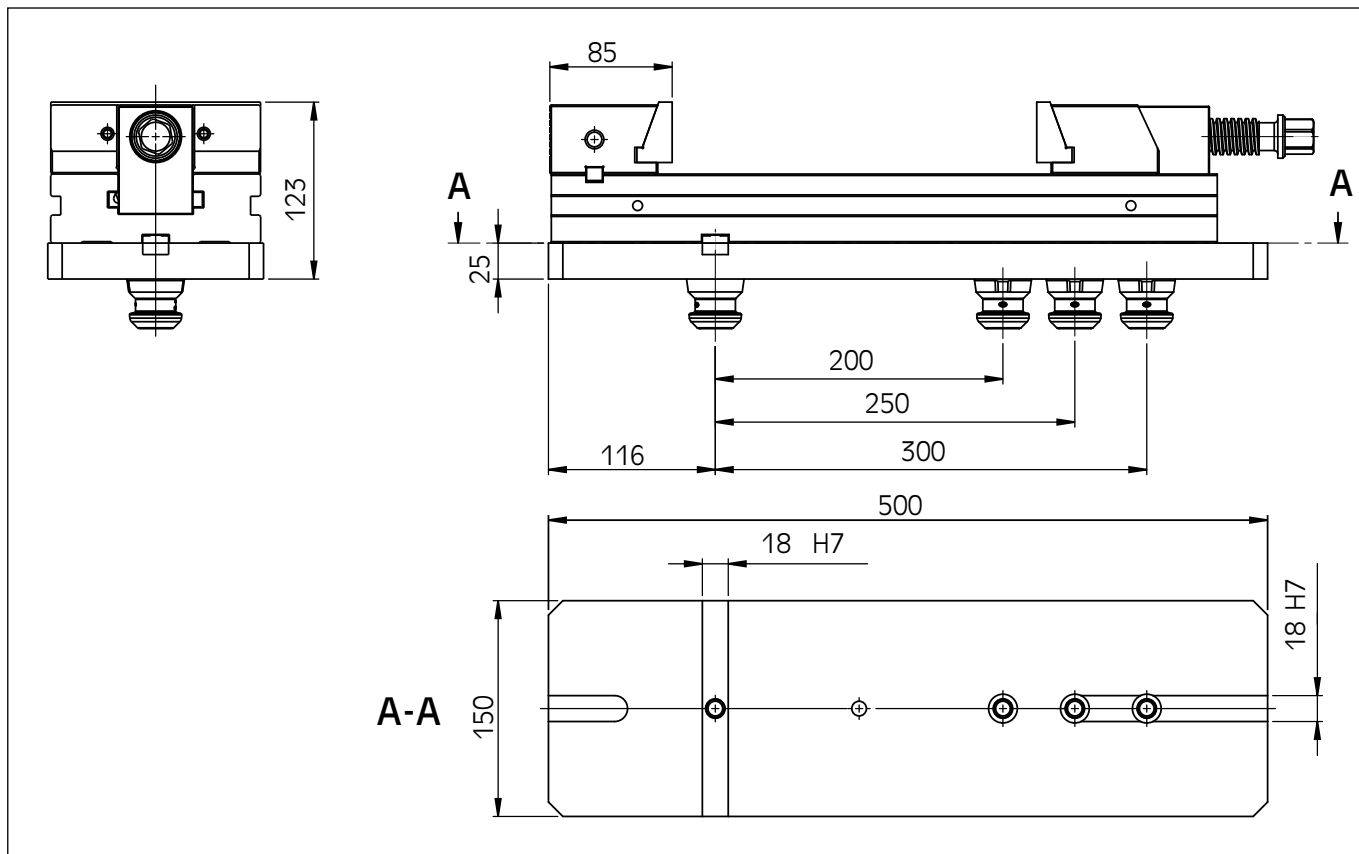
Working examples

code	for type	indexing angles		pushbar Stroke mm	weight kg
		min.	max°		
<b>46 16 76 10</b>	<b>FDV-301</b>	<b>5°</b>	<b>45°</b>	<b>75</b>	<b>126</b>

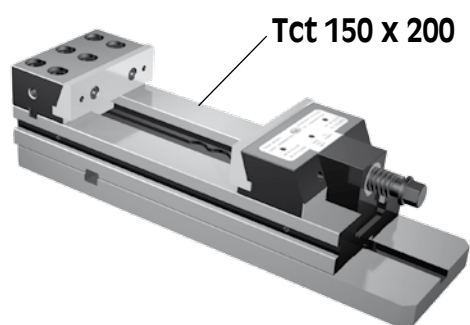
# APS-140

## Interface plates

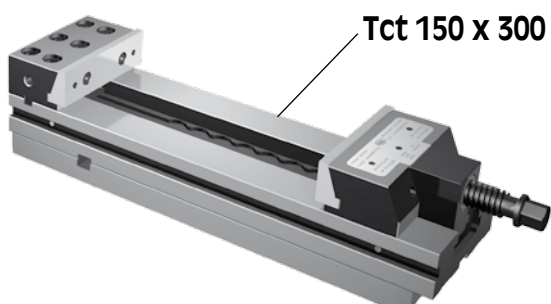
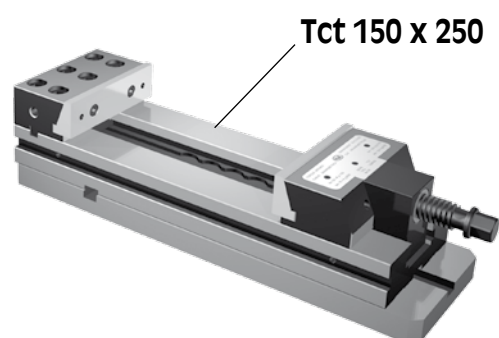
Interface plate for APS 140 with Tct 150



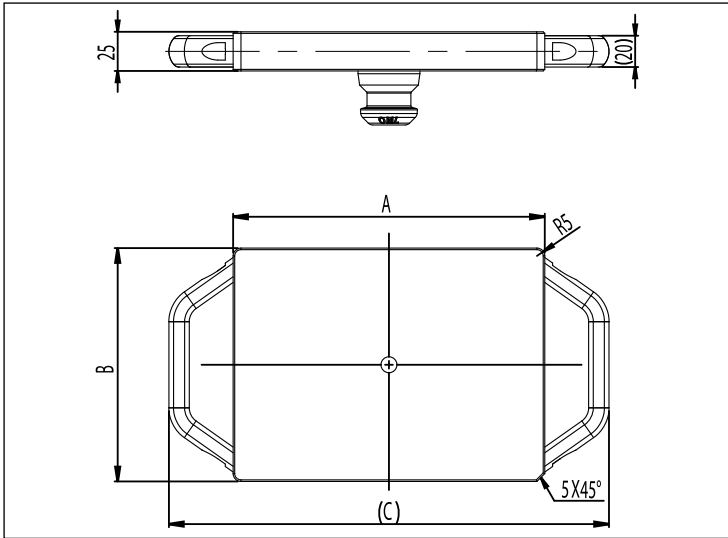
code	weight kg
<b>46 16 77 10</b>	14



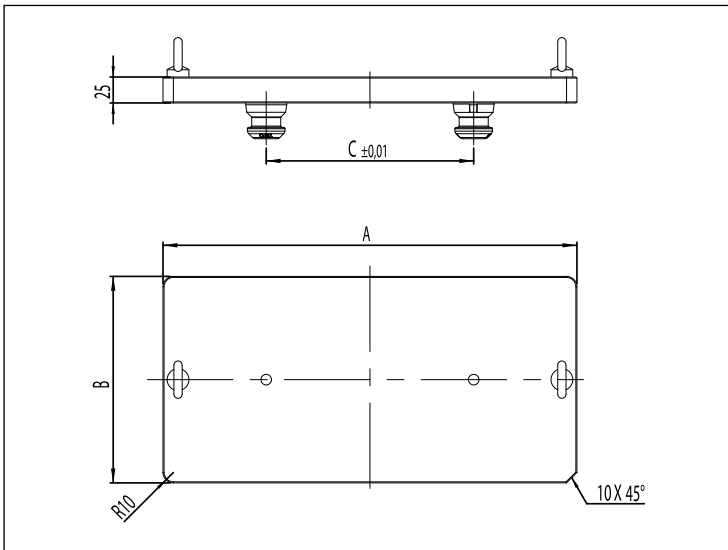
Working examples



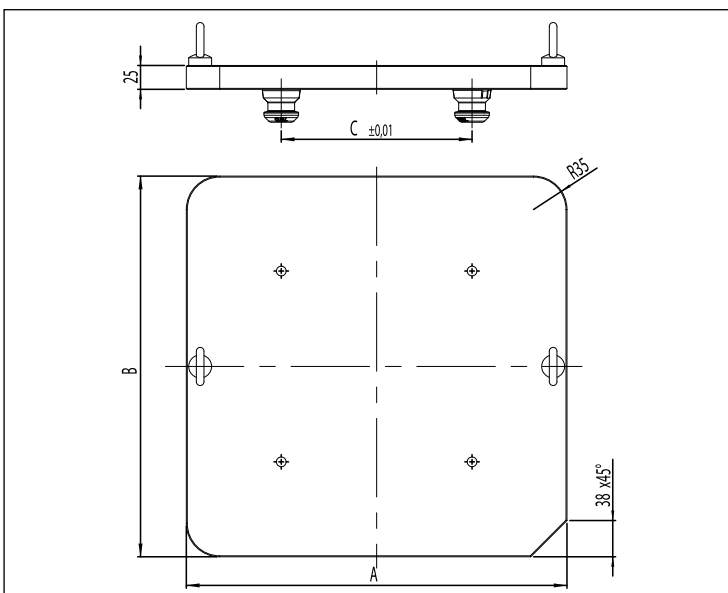
● Special interfaces plates for any other vises on request



code	type	A mm	B mm	C mm
<b>46 16 77 21</b>	100	149	149	231
<b>46 16 77 22</b>	140	199	149	281



code	type	A mm	B mm	C mm
<b>46 16 77 23</b>	100	299	149	150
<b>46 16 77 24</b>	140	399	199	200

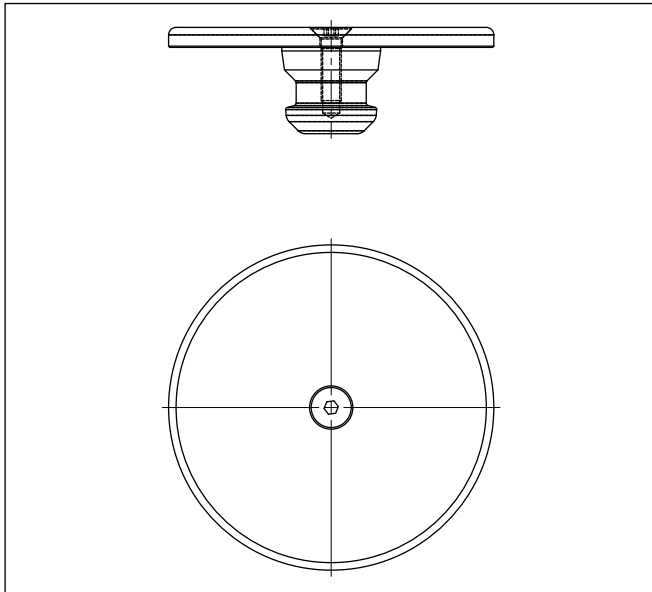


code	type	A mm	B mm	C mm
<b>46 16 77 25</b>	100	299	299	150
<b>46 16 77 26</b>	140	399	399	200

# APS

## Accessories and fittings

### Protection cover

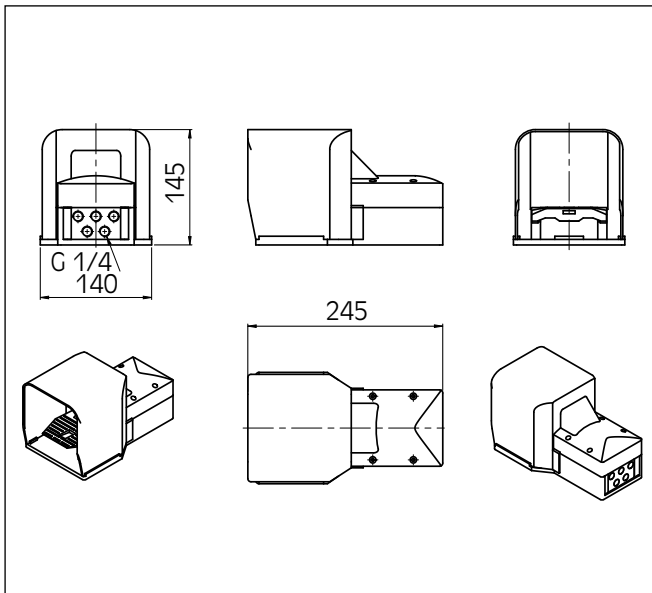


#### For APS 100

code	weight kg
46 16 21 35	0,5

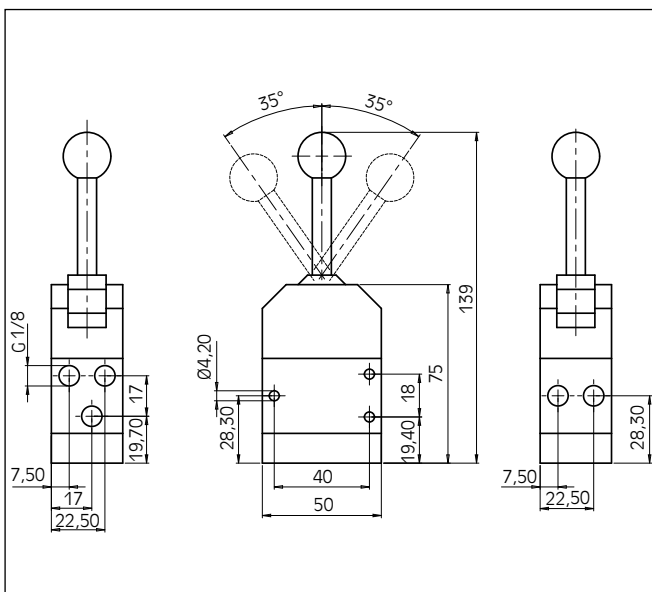
#### For APS 140

code	weight kg
46 16 23 25	0,12



### 5/2 1/4" way foot valve with guarded pedal

code	weight kg	symbol
71 64 22 14	1,035	

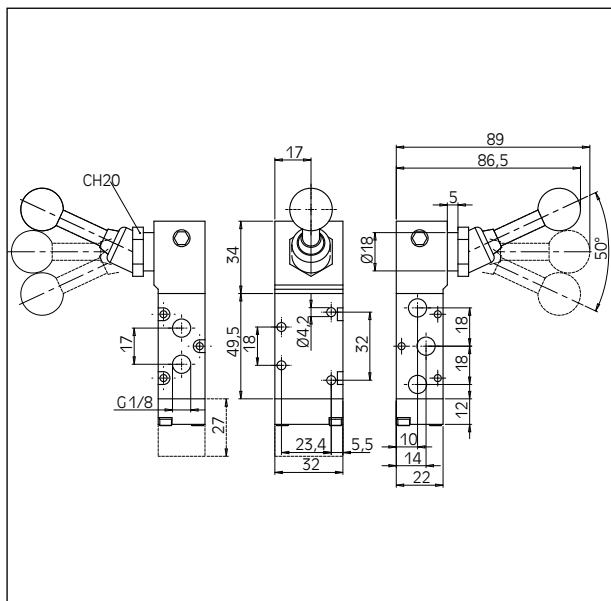


### Hand-operated valve front lever 5/3 1/8"

code	weight kg	symbol
71 64 21 04	0,316	

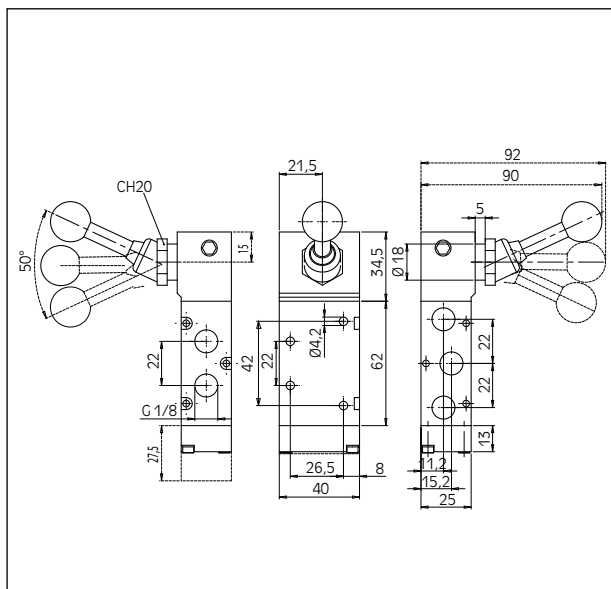


Hand-operated valve angular lever 90° 5/3 1/8"



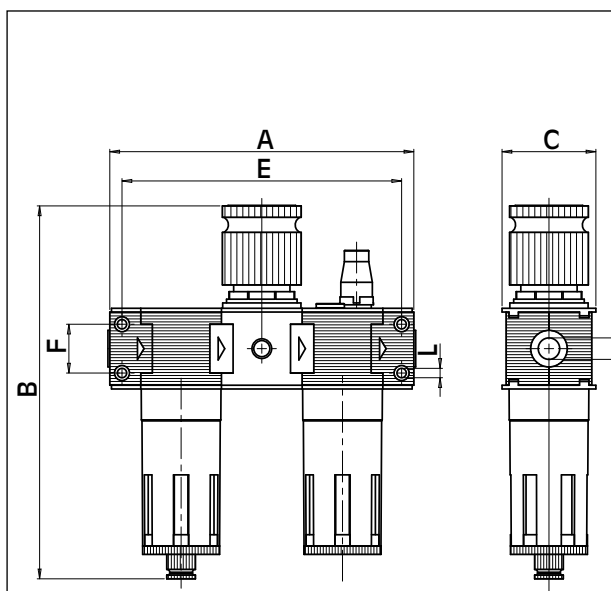
code	weight kg	symbol
71 64 21 05	0,194	

Hand-operated valve angular lever 90° 5/3 1/4"



code	weight kg	symbol
71 64 21 14	0,288	

FRL filter

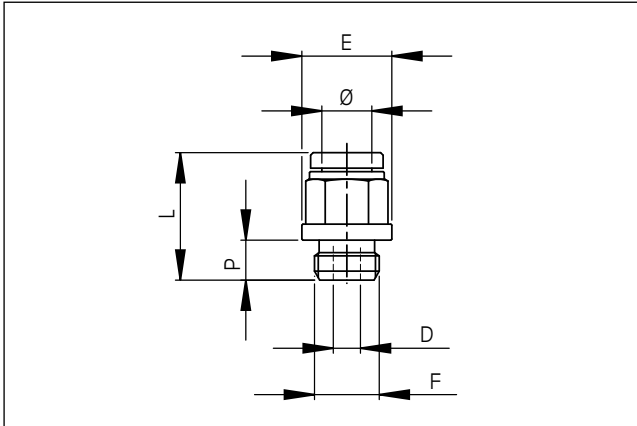


code	weight kg
71 64 21 15	0,803

# APS-140

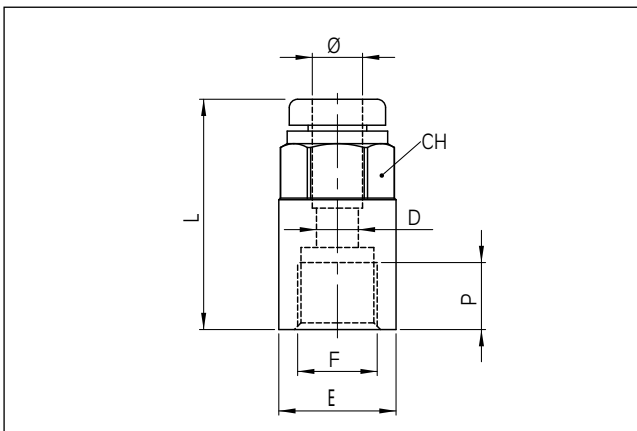
## Accessories and fittings

### Straight, cylindrical, male fitting



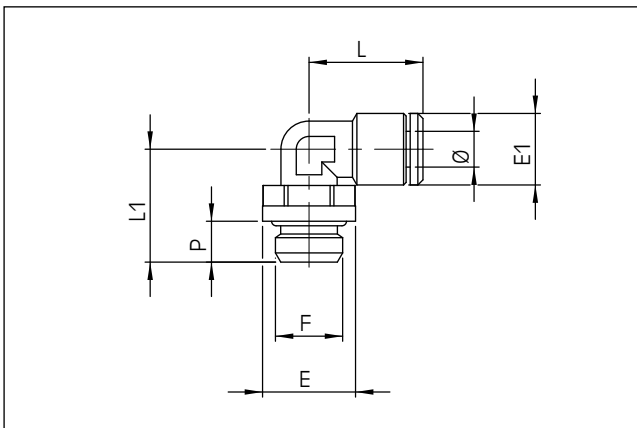
code	Ø	G	Ch	Ch1	P	L	D	E
71 61 20 01	6	1/8	13	4	6.0	24.0	4.2	15.0
71 61 20 02	6	1/4	13	4	8.0	24.0	4.2	18.0
71 61 20 03	8	1/8	15	5	6.0	27.5	5.2	16.5
71 61 20 04	8	1/4	15	6	8.0	25.5	6.2	18.0

### Straight, female fitting



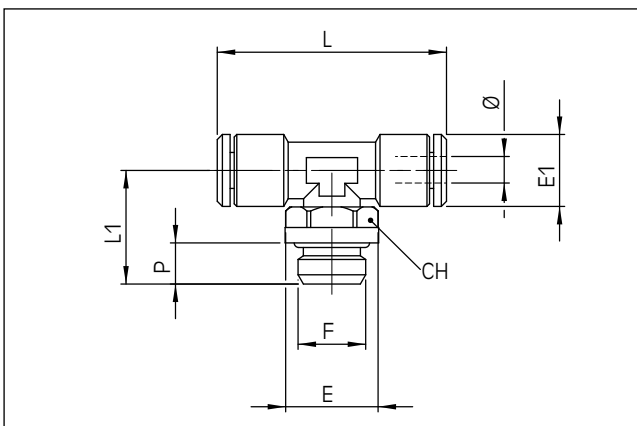
code	Ø	F	Ch	P	L	D	E
71 61 20 05	6	1/8	13	4	6.0	24.0	4.2
71 61 20 06	6	1/4	13	4	8.0	24.0	4.2
71 61 20 07	8	1/8	15	5	6.0	27.5	5.2
71 61 20 08	8	1/4	15	6	8.0	25.5	6.2

### Rotary elbow male cylindrical



code	Ø	F	Ch	E	E1	L	L1	P
71 61 20 09	6	1/8	13	15	12.5	24.5	21	6
71 61 20 10	6	1/4	16	18	12.5	26	24.5	8
71 61 20 11	8	1/8	13	15	14.5	27.5	22.5	6
71 61 20 12	8	1/4	16	18	14.5	27.5	24.5	8

### Central tee male cylindrical rotary



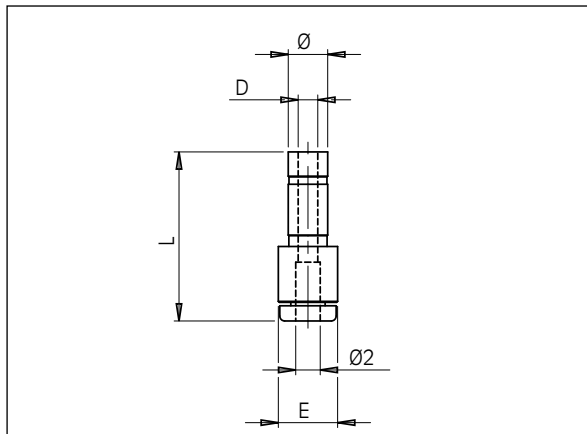
code	Ø	F	Ch	E	E1	L	L1	P
71 61 20 13	6	1/8	13	15	12.5	49	21	6
71 61 20 14	6	1/4	16	18	12.5	52	24.5	8
71 61 20 15	8	1/8	13	15	14.5	55	22.5	6
71 61 20 16	8	1/4	16	18	14.5	55	24.5	8

# APS-140

## Accessories and fittings

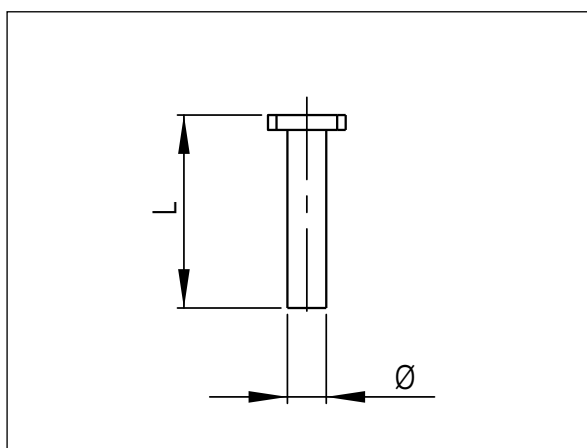
0

### Reducer



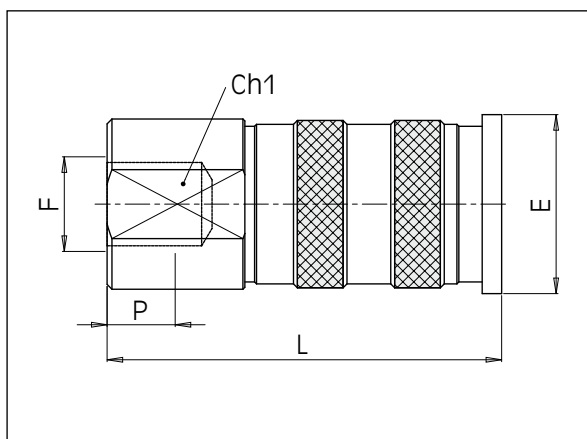
code	Ø1	Ø2	L	D	E
71 61 20 17	6	1/8	13	4	6.0

### Plug



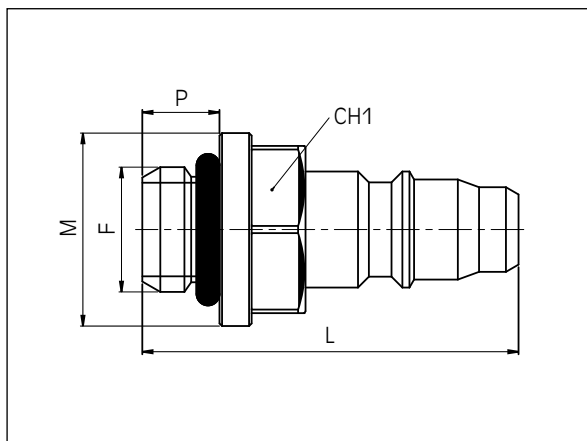
code	Ø	L
71 61 20 18	6	29.8
71 61 20 19	8	33.6

### Quick fitting 1/8 female



code	Ø E	F	L	P
71 61 28 01	18.8	G 1/8	42	7

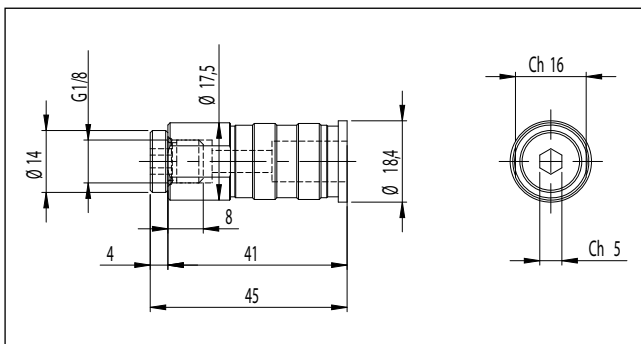
### Quick fitting 1/8 male



code	F	L	Ø M	P
71 61 28 02	G 1/8	29.3	15	6

# APS

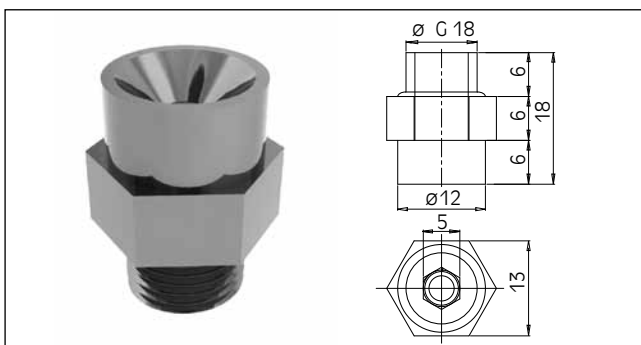
## Accessories and fittings



Cover plug for APS

code

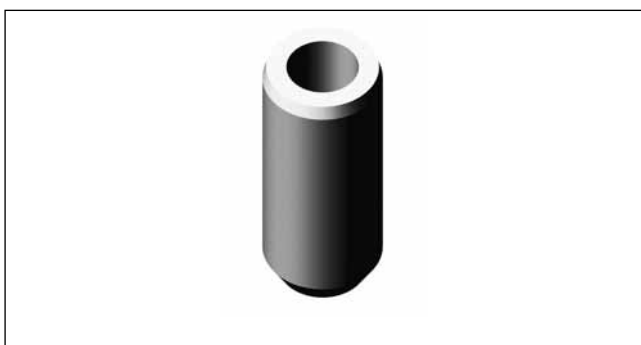
46 16 70 19



Valve for air compressed gun

code

46 16 78 00



Pin for orientation (single use)

For APS 100

code

46 16 21 31

For APS 140

code

71 20 08 16



Key for single use

For APS 100

H 7

code

46 16 21 32



Key for single use

For APS 140

F 7

code

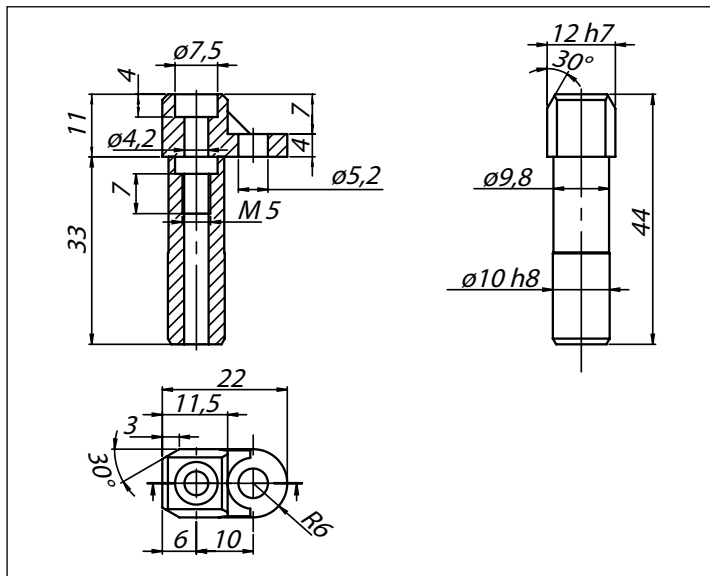
46 16 23 28

For APS 140

H 7

code

46 16 23 29



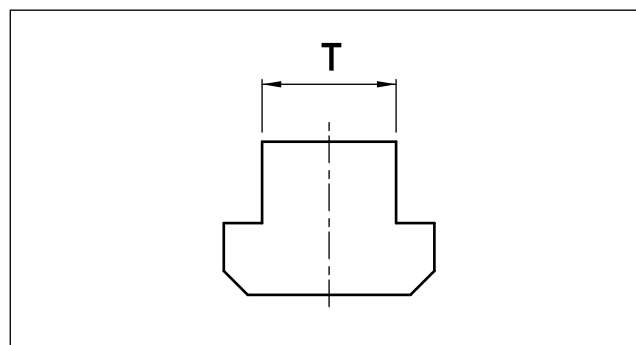
Key for single use  
type "S"

For APS 140

code
46 16 23 33



Pair of clamps  
for plates 46168210 / 46168215  
complete with screws and T nuts



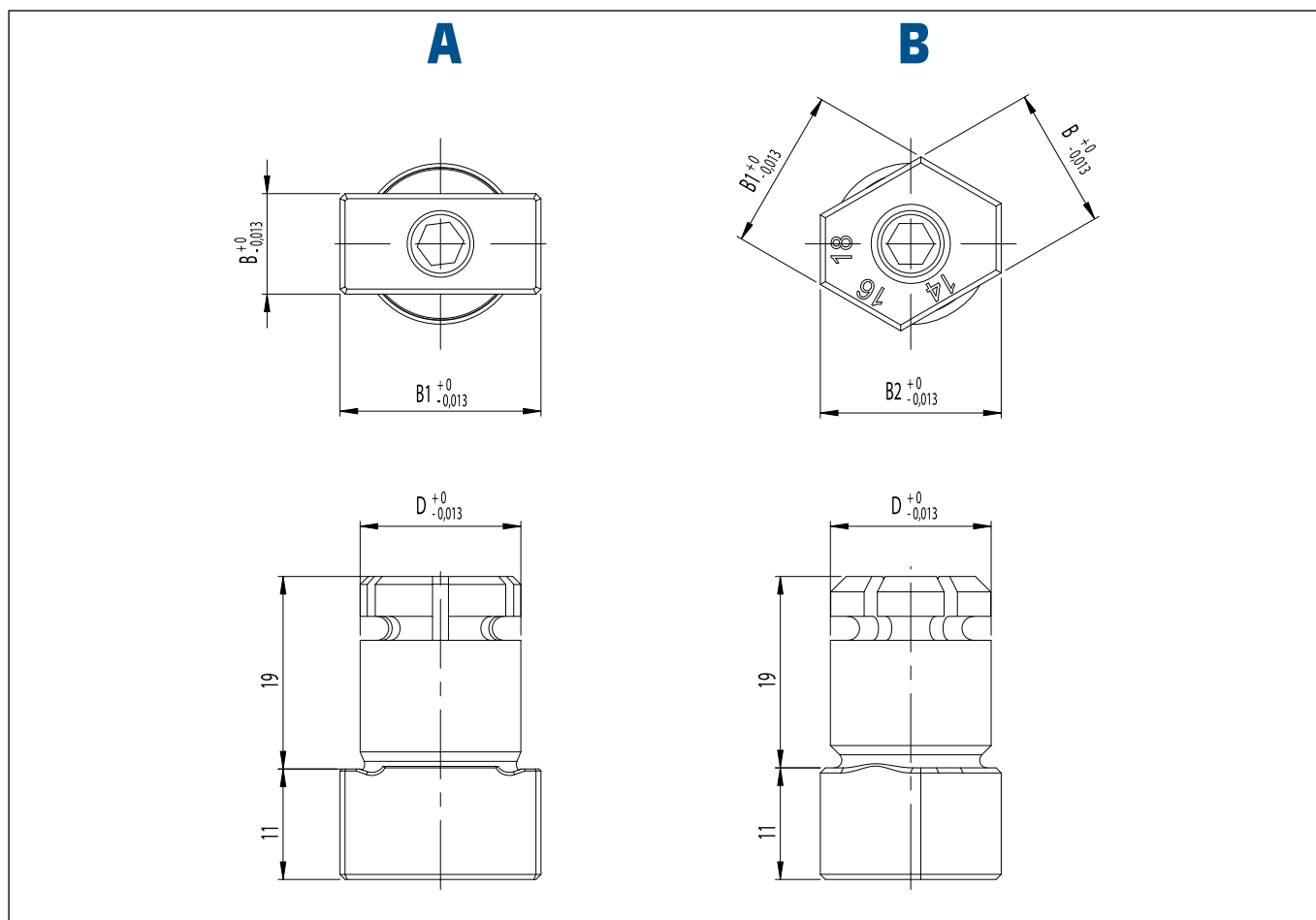
Code for T-slots

mm12	mm14	mm16	mm18	mm20	mm22
58 04 27 92	58 04 27 93	58 04 27 94	58 04 27 95	58 04 27 96	58 04 27 97

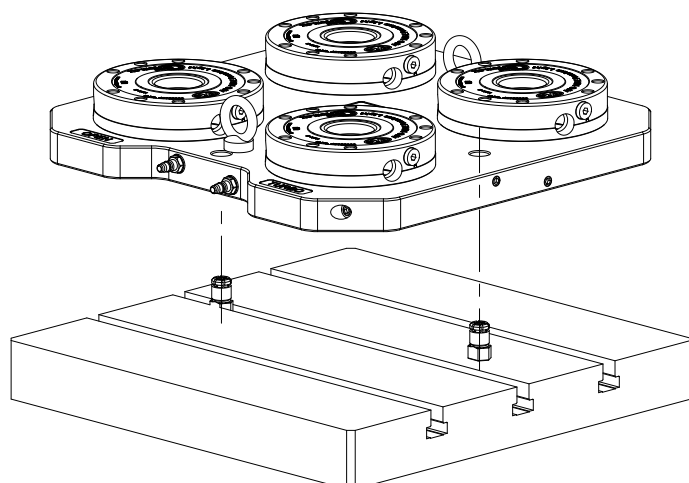
# APS-140

## Accessories and fittings

### Positioning round key

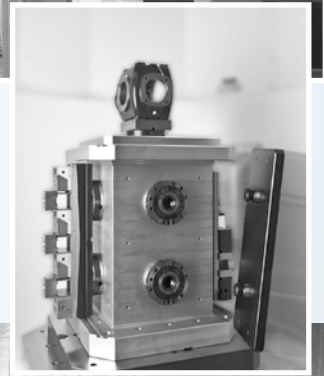
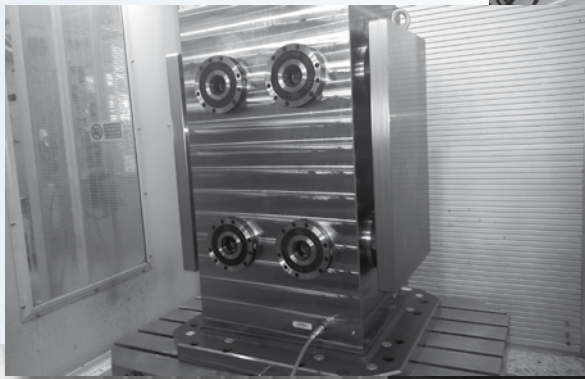
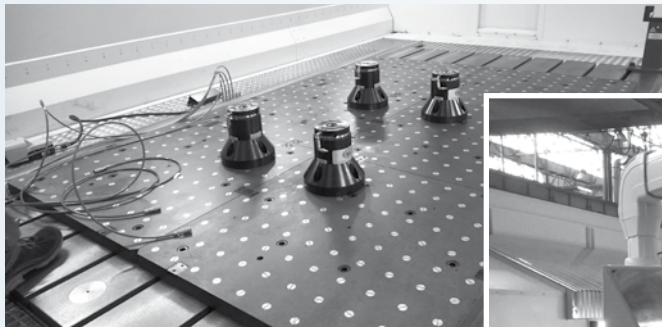
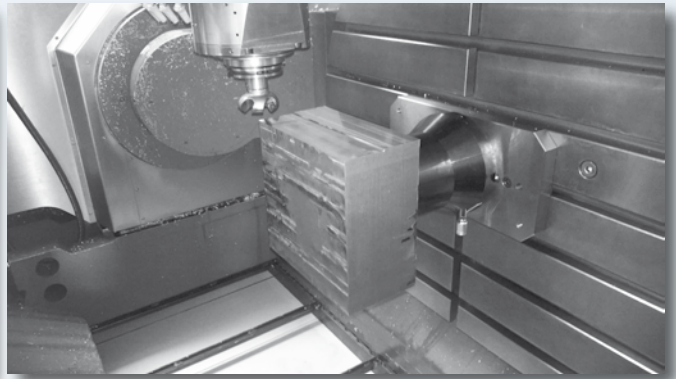
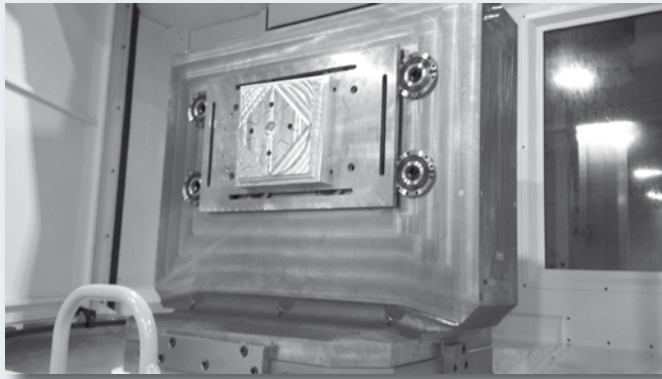


	code	D mm	B mm	B1 mm	B2 mm	Ø mm
A	71 29 01 83	16	10	20	-	16,01 ±0,01
A	71 29 01 81	16	12	22	-	16,01 ±0,01
B	71 29 01 82	16	14	16	18	16,01 ±0,01
B	71 29 01 84	20	24	28	32	20,01 ±0,01



Working examples

# Working Examples



# Working Examples

