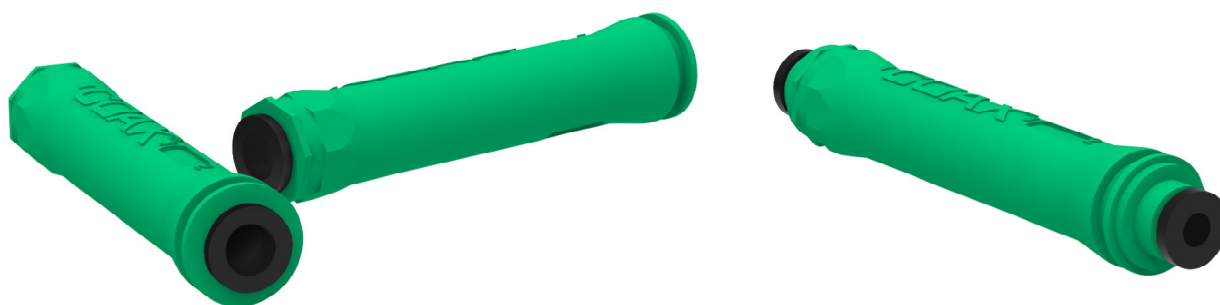


# piINLINE® MICRO family



piINLINE® are small lightweight inline ejectors that use the patented COAX® technology inside. They can be mounted directly on a hose close to the suction cup (or point of suction). Piab's piINLINE® ejector program offers much better performance with at least 40-50% lower energy consumption compared to competing inline single-stage ejectors in corresponding sizes. Inline vacuum generators are especially common in electronic/semiconductor pick-and-place applications, dedicated packaging equipment, injection-molding automation and unloading/loading metal forming machines (bending, punching and laser-cutting).

The COAX® Cartridge Si/Ti for extra vacuum flow, Bi cartridge for reliability at low feed pressures. And Ti/Xi cartridge when high flow and deep vacuum is needed.

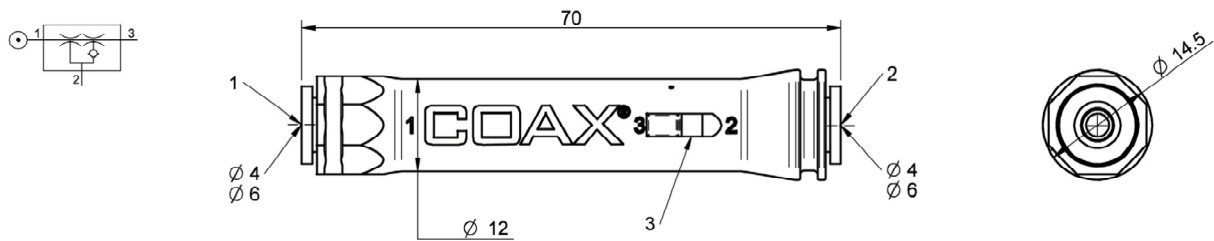
## Vacuum flow

COAX® Cartridge	Feed pressure MPa	Air consumption NI/s	Vacuum flow (NI/s) at different vacuum levels (-kPa)										Max vacuum -kPa
			0	10	20	30	40	50	60	70	80		
MICRO Bi03-2	0.18	0.14	0.23	0.15	0.06	0.04	0.035	0.023	0.013	0.006	—	83	
MICRO Si02-2	0.6	0.12	0.28	0.21	0.12	0.08	0.07	0.06	0.04	0.02	—	75	
MICRO Ti05-2	0.4	0.27	0.32	0.28	0.23	0.17	0.1	0.07	0.04	0.02	0.004	84	
MICRO Ti05-2	0.6	0.37	0.31	0.27	0.24	0.2	0.15	0.09	0.04	0.01	—	75	
MICRO Xi2.5-2	0.5	0.13	0.24	0.17	0.1	0.06	0.04	0.03	0.02	0.01	0.01	92	

## Evacuation times

COAX® Cartridge	Feed pressure MPa	Air consumption NI/s	Evacuation time (s/l) to reach different vacuum levels (-kPa)										Max vacuum -kPa
			10	20	30	40	50	60	70	80			
MICRO Bi03-2	0.18	0.14	0.5	1.4	3.9	6.4	10	16	28	51	—	83	
MICRO Si02-2	0.6	0.12	0.41	1.01	2.01	3.3	4.9	6.9	10.2	—	75		
MICRO Ti05-2	0.4	0.27	0.33	0.73	1.2	2	3.1	5	8.3	16.6	84		
MICRO Ti05-2	0.6	0.37	0.3	0.7	1.2	1.8	2.6	4.2	8.43	—	75		
MICRO Xi2.5-2	0.5	0.13	0.49	1.23	2.48	4.5	7.3	11.3	18	28	92		

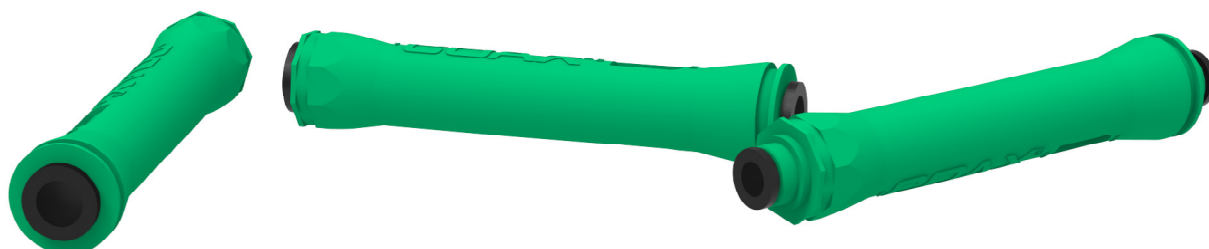
## Dimensional drawing



## Ordering information

For a complete list of available pumps and combinations with further information visit [piab.com](http://piab.com). On our webpage you will also be able to find dimensional drawings, CAD-drawings and much more. Register and get full access to all resources available.

# piINLINE® MINI family



piINLINE® are small lightweight inline ejectors that use the patented COAX® technology inside. They can be mounted directly on a hose close to the suction cup (or point of suction). Piab's piINLINE® ejector program offers much better performance with at least 40-50% lower energy consumption compared to competing inline single-stage ejectors in corresponding sizes. Inline vacuum generators are especially common in electronic/semiconductor pick-and-place applications, dedicated packaging equipment, injection-molding automation and unloading/loading metal forming machines (bending, punching and laser-cutting).

The COAX® Cartridge Si cartridge for extra vacuum flow, the Pi cartridge for high performance at low feed pressures. And the Xi cartridge when high flow and deep vacuum is needed.

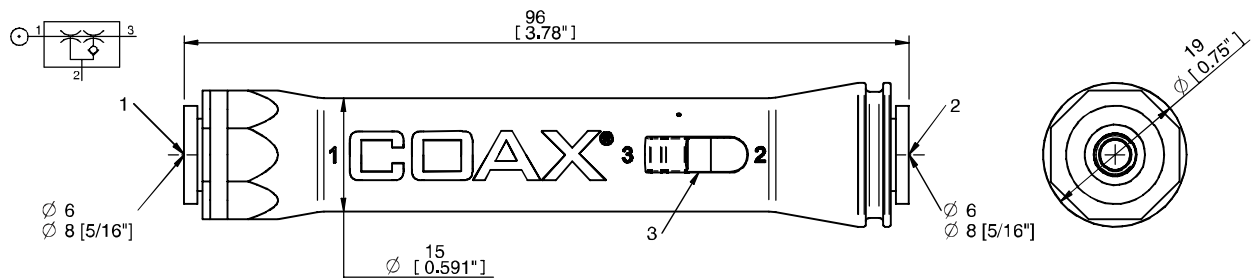
## Vacuum flow

COAX® Cartridge	Feed pressure MPa	Air consumption NI/s	Vacuum flow (NI/s) at different vacuum levels (-kPa)										Max vacuum -kPa
			0	10	20	30	40	50	60	70	80	90	
MINI Si08-2	0.6	0.44	0.69	0.55	0.42	0.28	0.23	0.16	0.12	0.08	—	—	75
MINI Pi12-2	0.32	0.44	0.57	0.44	0.31	0.23	0.19	0.14	0.1	0.06	0.03	—	90
MINI Xi10-2	0.5	0.46	0.62	0.5	0.37	0.27	0.19	0.15	0.11	0.07	0.045	0.011	94

## Evacuation times

COAX® Cartridge	Feed pressure MPa	Air consumption NI/s	Evacuation time (s/l) to reach different vacuum levels (-kPa)										Max vacuum -kPa
			10	20	30	40	50	60	70	80	90		
MINI Si08-2	0.6	0.44	0.16	0.37	0.66	1.1	1.4	2.1	3.1	—	—	75	
MINI Pi12-2	0.32	0.44	0.2	0.46	0.83	1.1	1.8	2.7	4	6.4	—	90	
MINI Xi10-2	0.5	0.46	0.18	0.41	0.72	1	1.6	2.3	3.5	5.3	8.9	94	

## Dimensional drawing



## Ordering information

For a complete list of available pumps and combinations with further information visit [piab.com](http://piab.com). On our webpage you will also be able to find dimensional drawings, CAD-drawings and much more. Register and get full access to all resources available.

# piINLINE® MIDI family



piINLINE® are small lightweight inline ejectors that use the patented COAX® technology inside. They can be mounted directly on a hose close to the suction cup (or point of suction). Piab's piINLINE® ejector program offers much better performance with at least 40-50% lower energy consumption compared to competing inline single-stage ejectors in corresponding sizes. Inline vacuum generators are especially common in electronic/semiconductor pick-and-place applications, dedicated packaging equipment, injection-molding automation and unloading/loading metal forming machines (bending, punching and laser-cutting).

The COAX® Cartridge Si cartridge for extra vacuum flow the Pi cartridge for high performance at low feed pressures. And the Xi cartridge when high flow and deep vacuum is needed.

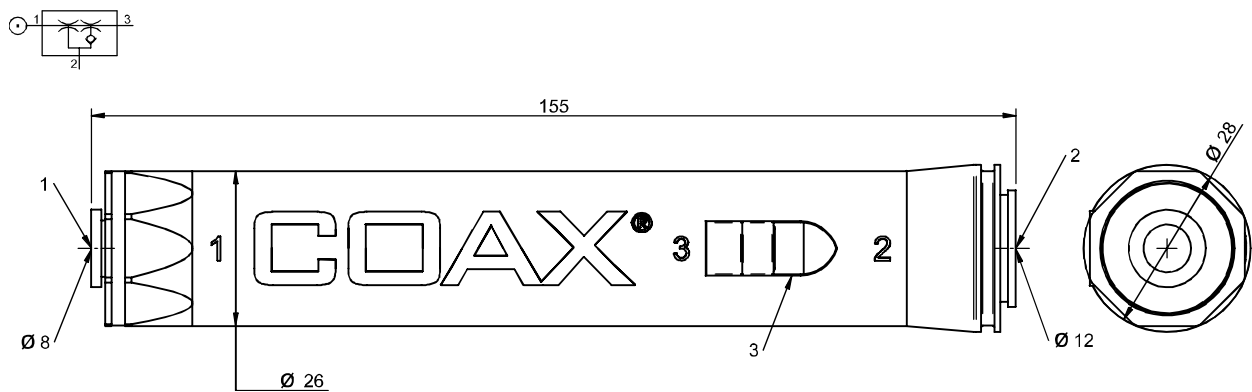
## Vacuum flow

COAX® Cartridge	Feed pressure MPa	Air consumption NI/s	Vacuum flow (NI/s) at different vacuum levels (-kPa)										Max vacuum -kPa
			0	10	20	30	40	50	60	70	80	90	
MIDI Si32-2	0.6	1.75	3.1	2.5	1.9	1.2	0.7	0.6	0.5	0.35	—	—	75
MIDI Pi48-2	0.31	2	2.7	2.2	1.5	0.93	0.65	0.5	0.35	0.25	0.1	—	90
MIDI Xi40-2	0.45	1.83	2.8	2.3	1.6	1	0.73	0.58	0.43	0.32	0.18	0.03	95

## Evacuation times

COAX® Cartridge	Feed pressure MPa	Air consumption NI/s	Evacuation time (s/l) to reach different vacuum levels (-kPa)										Max vacuum -kPa
			10	20	30	40	50	60	70	80	90		
MIDI Si32-2	0.6	1.75	3.1	2.5	1.9	1.2	0.7	0.6	0.5	0.35	—	75	
MIDI Pi48-2	0.31	2	0.04	0.1	0.18	0.3	0.48	0.71	1.05	1.85	4	90	
MIDI Xi40-2	0.45	1.83	0.04	0.09	0.17	0.28	0.44	0.63	0.9	1.3	2.3	95	

## Dimensional drawing



## Ordering information

For a complete list of available pumps and combinations with further information visit [piab.com](http://piab.com). On our webpage you will also be able to find dimensional drawings, CAD-drawings and much more. Register and get full access to all resources available.

## piINLINE® MICRO



- ▶ Patented COAX® cartridge technology.
- ▶ High vacuum flow capacity in relation to energy consumption.
- ▶ Low weight inline design with push-in fittings.
- ▶ Quick and easy installation directly on the hose.
- ▶ Si/Ti cartridge at 0.6 MPa for extra vacuum flow.
- ▶ Bi cartridge for reliability at low feed pressures.
- ▶ Ti/Xi cartridge at 0.4/0.5 MPa when high flow and deep vacuum is needed.

### Technical data

Description	Unit	Value
Feed pressure, max.	MPa	0.7
Material		PA, NBR, SS, TPE, CuZn, Al*
Temperature range	°C	-10-80

\*) Only on 4-4 mm.

### Technical data, specific

Description	Unit	Value					
		Bi4-4	Xi4-4	Si6-6	Bi6-6	Ti6-6	Xi6-6
Noise level, min-max	dBA	64-73	70-76	67-73	67-73	74-85	70-76
Weight	g	10	10	9.8	9.8	9.8	9.8
Connection, vacuum	mm	4	4	6	6	6	6
Connection, compressed air	mm	4	4	6	6	6	6

## Vacuum flow

COAX® cartridge	Feed pressure* MPa	Air consumption NI/s	Vacuum flow (NI/s) at different vacuum levels (-kPa)									Max vacuum -kPa
			0	10	20	30	40	50	60	70	80	
Si	0.6	0.12	0.28	0.21	0.12	0.08	0.07	0.06	0.04	0.02	—	75
Ti	0.6	0.37	0.31	0.27	0.24	0.20	0.15	0.09	0.04	0.01	—	75
Bi	0.18	0.14	0.23	0.15	0.060	0.040	0.035	0.023	0.013	0.006	—	83
Ti	0.4	0.27	0.32	0.28	0.23	0.17	0.10	0.07	0.04	0.02	0.004	84
Xi	0.5	0.13	0.24	0.17	0.10	0.06	0.04	0.03	0.02	0.01	0.01	92

\*Feed pressure tolerance,  $\pm 0.01$  MPa.

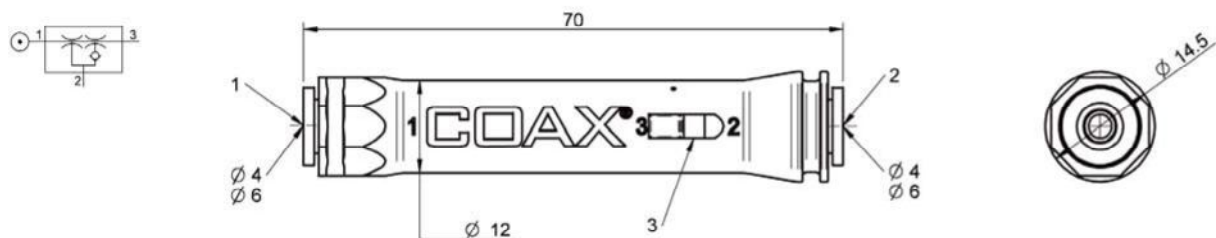
## Evacuation time

COAX® cartridge	Feed pressure* MPa	Air consumption NI/s	Evacuation time (s/l) to reach different vacuum levels (-kPa)								Max vacuum -kPa
			10	20	30	40	50	60	70	80	
Si	0.6	0.12	0.41	1.01	2.01	3.30	4.90	6.90	10.2	—	75
Ti	0.6	0.37	0.30	0.70	1.20	1.80	2.60	4.20	8.43	—	75
Bi	0.18	0.14	0.50	1.40	3.90	6.40	10.0	16.0	28.0	51.0	83
Ti	0.4	0.27	0.33	0.73	1.20	2.00	3.10	5.00	8.30	16.6	84
Xi	0.5	0.13	0.49	1.23	2.48	4.50	7.30	11.3	18.0	28.0	92

\*Feed pressure tolerance,  $\pm 0.01$  MPa.

## Ordering information

Description	Art. No.
piINLINE® vacuum generator MICRO Bi, 4-4 mm	0122880
piINLINE® vacuum generator MICRO Xi, 4-4 mm	0122881
piINLINE® vacuum generator MICRO Si, 6-6 mm	0122882
piINLINE® vacuum generator MICRO Bi, 6-6 mm	0122883
piINLINE® vacuum generator MICRO Ti, 6-6 mm	0122022
piINLINE® vacuum generator MICRO Xi, 6-6 mm	0122884



## Ordering information, accessories

Description	Art. No.
Snap-in piINLINE® 5x MICRO mounting bracket	0123093



## piINLINE® MINI



- ▶ Patented COAX® cartridge technology.
- ▶ High vacuum flow capacity in relation to energy consumption.
- ▶ Low weight inline design with push-in fittings for vacuum and compressed air.
- ▶ Quick and easy installation directly on the hose.
- ▶ Si cartridge for extra vacuum flow.
- ▶ Pi cartridge for high performance at low feed pressures.
- ▶ Xi cartridge when high flow and deep vacuum is needed.

### Technical data

Description	Unit	Value
Feed pressure, max.	MPa	0.7
Material		PA, NBR, SS, CuZn, Al*
Temperature range	°C	-10-80

\* Only on 6-6 mm.

### Technical data, specific

Description	Unit	Value					
		Si6-6	Pi6-6	Xi6-6	Si8-8	Pi8-8	Xi8-8
Noise level, min-max	dBA	68-84	69-85	81-85	68-84	69-85	81-85
Weight	g	23	23	23	21.8	21.8	21.8
Connection, vacuum	mm	6	6	6	8	8	8
Connection, compressed air	mm	6	6	6	8	8	8

# Vacuum pumps/generators Small



## Vacuum flow

COAX® cartridge	Feed pressure* MPa	Air consumption NI/s	Vacuum flow (NI/s) at different vacuum levels (-kPa)										Max vacuum -kPa
			0	10	20	30	40	50	60	70	80	90	
Si	0.6	0.44	0.69	0.55	0.42	0.28	0.23	0.16	0.12	0.08	—	—	75
Pi	0.314	0.44	0.57	0.44	0.31	0.23	0.19	0.14	0.10	0.06	0.03	—	90
Xi	0.5	0.46	0.62	0.50	0.37	0.27	0.19	0.15	0.11	0.07	0.045	0.011	94

\*Feed pressure tolerance,  $\pm 0.01$  MPa.

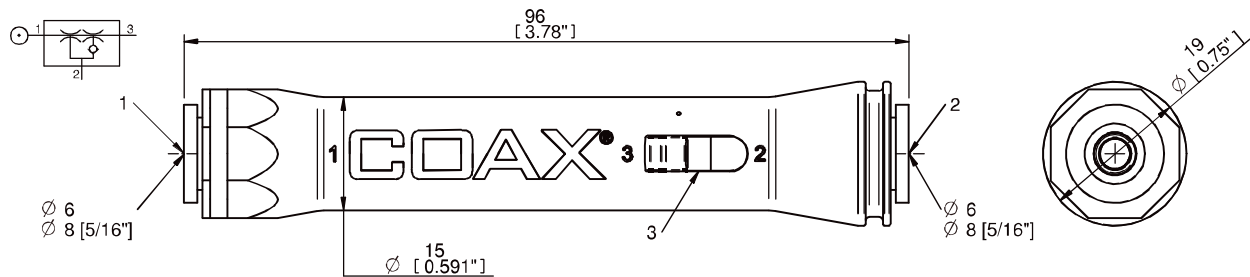
## Evacuation time

COAX® cartridge	Feed pressure* MPa	Air consumption NI/s	Evacuation time (s/l) to reach different vacuum levels (-kPa)									Max vacuum -kPa
			10	20	30	40	50	60	70	80	90	
Si	0.6	0.44	0.16	0.37	0.66	1.10	1.40	2.10	3.10	—	—	75
Pi	0.314	0.44	0.20	0.46	0.83	1.10	1.80	2.70	4.00	6.40	—	90
Xi	0.5	0.46	0.18	0.41	0.72	1.00	1.60	2.30	3.50	5.30	8.90	94

\*Feed pressure tolerance,  $\pm 0.01$  MPa.

## Ordering information

Description	Art. No.
piINLINE® vacuum generator MINI Si, 6-6 mm	0122025
piINLINE® vacuum generator MINI Pi, 6-6 mm	0122894
piINLINE® vacuum generator MINI Xi, 6-6 mm	0122895
piINLINE® vacuum generator MINI Si, 8-8 mm	0122896
piINLINE® vacuum generator MINI Pi, 8-8 mm	0122897
piINLINE® vacuum generator MINI Xi, 8-8 mm	0122898



## Ordering information, accessories

Description	Art. No.
Snap-in piINLINE® 4x MINI mounting bracket	0123094
Snap-in piINLINE® 1x MINI mounting bracket for silencer	0126009
Silencer piINLINE® MINI	0125466

## piINLINE® MIDI



- ▶ Patented COAX® cartridge technology.
- ▶ High vacuum flow capacity in relation to energy consumption.
- ▶ Low weight inline design with push-in fittings for vacuum and compressed air.
- ▶ Quick and easy installation directly on the hose.
- ▶ Si cartridge for extra vacuum flow.
- ▶ Pi cartridge for high performance at low feed pressures.
- ▶ Xi cartridge when high flow and deep vacuum is needed.

### Technical data

Description	Unit	Value
Feed pressure, max.	MPa	0.7
Material		PA, NBR, SS, CuZn
Temperature range	°C	-10-80

### Technical data, specific

Description	Unit	Value		
		Si8-12	Pi8-12	Xi8-12
Noise level, min-max	dBA	90-98	90-98	93-99
Weight	g	87	87	87
Connection, vacuum	mm	12	12	12
Connection, compressed air	mm	8	8	8

# Vacuum pumps/generators Medium



## Vacuum flow

COAX® cartridge	Feed pressure* MPa	Air consumption NI/s	Vacuum flow (NI/s) at different vacuum levels (-kPa)										Max vacuum -kPa
			0	10	20	30	40	50	60	70	80	90	
Si	0.6	1.75	3.10	2.50	1.90	1.20	0.70	0.60	0.50	0.35	—	—	75
Pi	0.31	2.05	2.70	2.20	1.50	0.93	0.65	0.50	0.35	0.25	0.10	—	90
Xi	0.45	1.83	2.80	2.30	1.60	1.00	0.73	0.58	0.43	0.32	0.18	0.03	95

\*Feed pressure tolerance,  $\pm 0.01$  MPa.

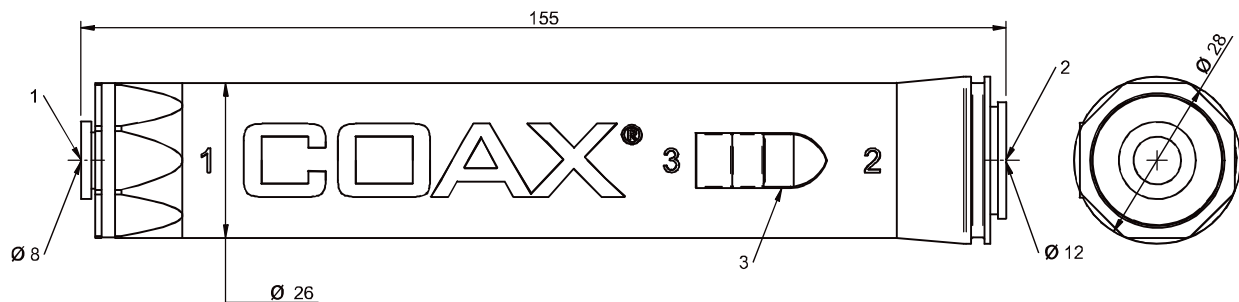
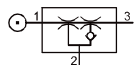
## Evacuation time

COAX® cartridge	Feed pressure* MPa	Air consumption NI/s	Evacuation time (s/l) to reach different vacuum levels (-kPa)									Max vacuum -kPa
			10	20	30	40	50	60	70	80	90	
Si	0.6	1.75	0.04	0.08	0.14	0.25	0.40	0.59	0.82	—	—	75
Pi	0.3	2.00	0.04	0.10	0.18	0.30	0.48	0.71	1.05	1.85	4.00	90
Xi	0.45	1.83	0.04	0.09	0.17	0.28	0.44	0.63	0.90	1.30	2.30	95

\*Feed pressure tolerance,  $\pm 0.01$  MPa.

## Ordering information

Description	Art. No.
piINLINE® vacuum generator MIDI Si, 8-12 mm	0122032
piINLINE® vacuum generator MIDI Pi, 8-12 mm	0122899
piINLINE® vacuum generator MIDI Xi, 8-12 mm	0122900



## Ordering information, accessories

Description	Art. No.
Snap-in piINLINE® 1x MIDI mounting bracket	0123095
Snap-in piINLINE® 1x MIDI mounting bracket for silencer	0123096
Silencer piINLINE® MIDI	0123031