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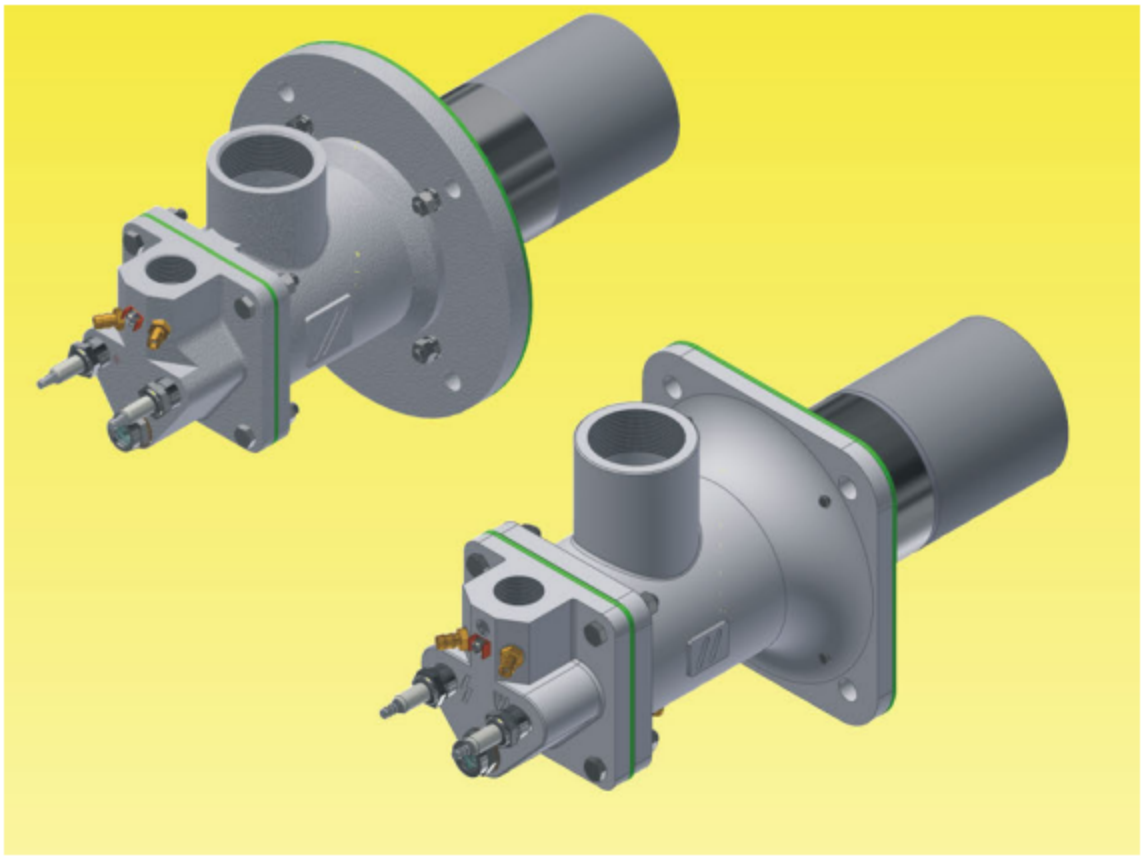
AIO/AIOA

Aeries Burner



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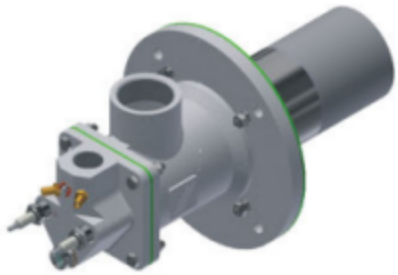
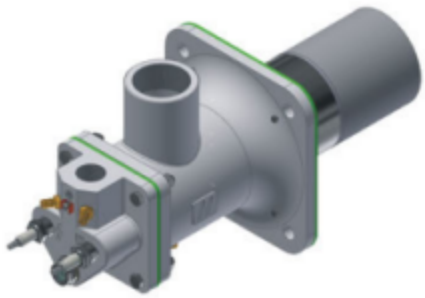
AIO/ AIOA Aeries Burner

Wide Range of Applications

Features





- Heating method: direct heating or indirect heating
- Control mode: intermittent / continuous
- Hot air temperature: 200/450°C
- Flame shape: straight flame (long flame H / short flame R), flat flame K
- Applicable types of gas: natural gas, liquefied gas, city gas, coke oven gas
- Usage: use with burner bricks
- Flame outlet speed: low speed, medium speed, high speed
- Installation method: side wall / furnace top
- Burner structure: Modular design for easy replacement of accessories

Applications

- Iron and Steel Industry
- Precious metals, non-ferrous metals and light alloy industries
- Glass, refractories, ceramics and enamel industries
- Ore and geotechnical roasting industries
- Plastics, fiber materials, paper industries
- Drying equipment and hot air stove

Product Description

- Air shell:
- Cast iron / cast aluminum
- Material of air inlet pipe: cast iron / 45# steel
- Applied maximum furnace temperature: 1050°C
- Fire pipe material: SUS 310S
- Combustion head: SUS 310S
- Fixed flange: Q235
- Maximum preheating air temperature: 250 (cast aluminum) / 450°C (cast iron)
- Power: 10~1000KW
- Air inlet pressure: 40mbar
- Gas inlet pressure: 30mbar
- Adjustment ratio: 1: 20

Ignition and Flame Monitoring

- Burner ignition can be achieved through the ignition electrode (model EN or WAND).
- Ion electrode and UV ultraviolet can be selected for flame detection.
- When the burner is used in the furnace where the temperature is lower than 750°C, it is recommended to install a flame detection system.

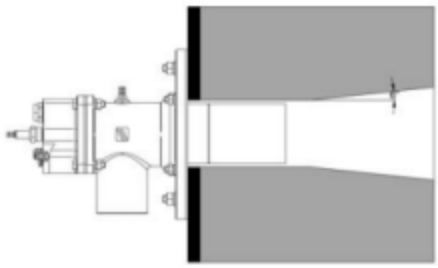
Burner Power and Other Parameters

The fuel used is natural gas.

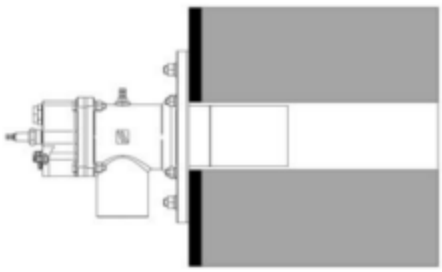
Model	Power		Flame Length[cm]	Gas Pressure[mbar]	Air Pressure[mbar]	Outlet Speed[m/s]
AIO50	40	R	20-22	27	25	15
AIO50	40	H	18-35	35	40	50
AIO65	90	R	20-23	27	38	20
AIO65	90	H	30-55	18	30	65
AIO65	90	K	/	31	35	/
AIO80	150	R	20-40	24	28	20
AIO80	150	H	60-90	22	25	70
AIO80	150	K	/	35	42	/
AI0100	230	R	20-55	30	33	20
AI0100	230	H	40-100	23	30	70
AI0100	230	K	/	40	40	/
AIO125	320	R	20-60	25	30	20
AIO125	320	H	70-135	32	34	70
AIO125	320	K	/	30	36	/
AIO140	450	R	35-65	33	18	20
AIO140	450	H	60-120	40	28	70
AIO140	450	K	/	58	36	/
AIO165	630	R	10-50	33	40	20
AIO165	630	H	70-120	40	23	70
AIO165	630	K	/	31	36	/
AIO200	1000	R	10-60	26	40	25
AIO200	1000	H	110-240	20	42	80

Application Condition of Burner

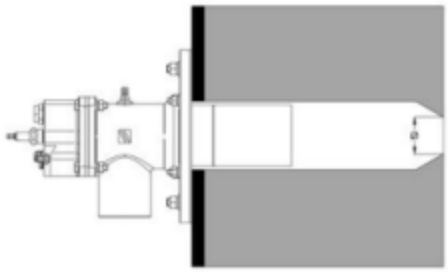
Application Fields	Drawing No.	Combustion Chamber Type	Control Mode	Combustion Head Type	Use Efficiency	Description
Open Combustion of Industrial Kiln	A	Open taper mouth	ON/OFF Continuous fire	R	100%	It is recommended to use only in cold air operation mode, otherwise the value of nitric oxide is too high.
Open Combustion of Industrial Kiln	B	Straight mouth	ON/OFF Continuous fire	R, H	100%	Medium Outlet Speed
Open Combustion of Industrial Kiln	C	Necking	ON/OFF Continuous fire	R, H	About 80%	The power of medium and high speed Outlet Speed is affected by the outlet diameter
Open Combustion of Industrial Kiln	C	Closed taper	ON/OFF Continuous fire	R, H	About 75%	Minimum power: 10% of rated power
Open Combustion of Industrial Kiln	D	Trumpet mouth	ON/OFF Continuous fire	K	100%	Continuous control power range: N40%



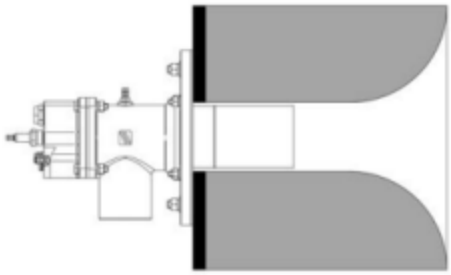
C



D



A



B

Type selection

Model AIO (A)	100	R	B	100/	85	Note

Burner Specification
65
100
125
140
165
200

Flame Shape
Long flame=H, Short flame=R, Flat flame=K

Gas type
Natural gas=B, Liquefied gas=G, Coke oven gas=D

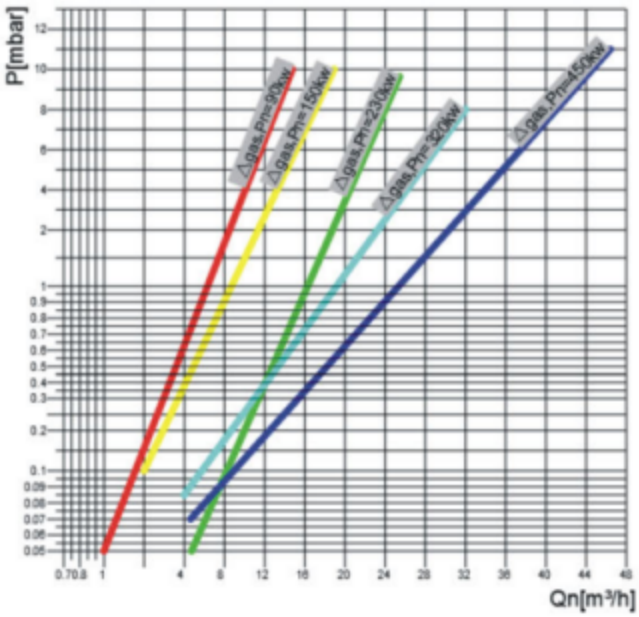
Fire pipe length L1
50, 100, 150... ...

Combustion head location L2
35, 85, 135... ...

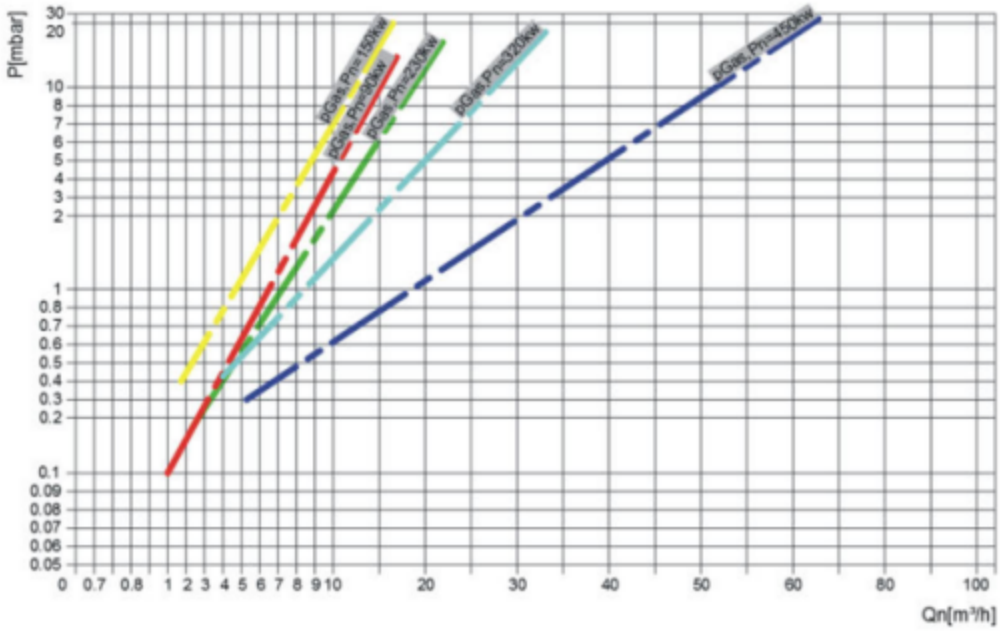
Double electrode form = (Blank), electrode ignition with UV detection = single electrode with UV.

Example: AIO 100RB 100/85

Pressure-flow characteristics

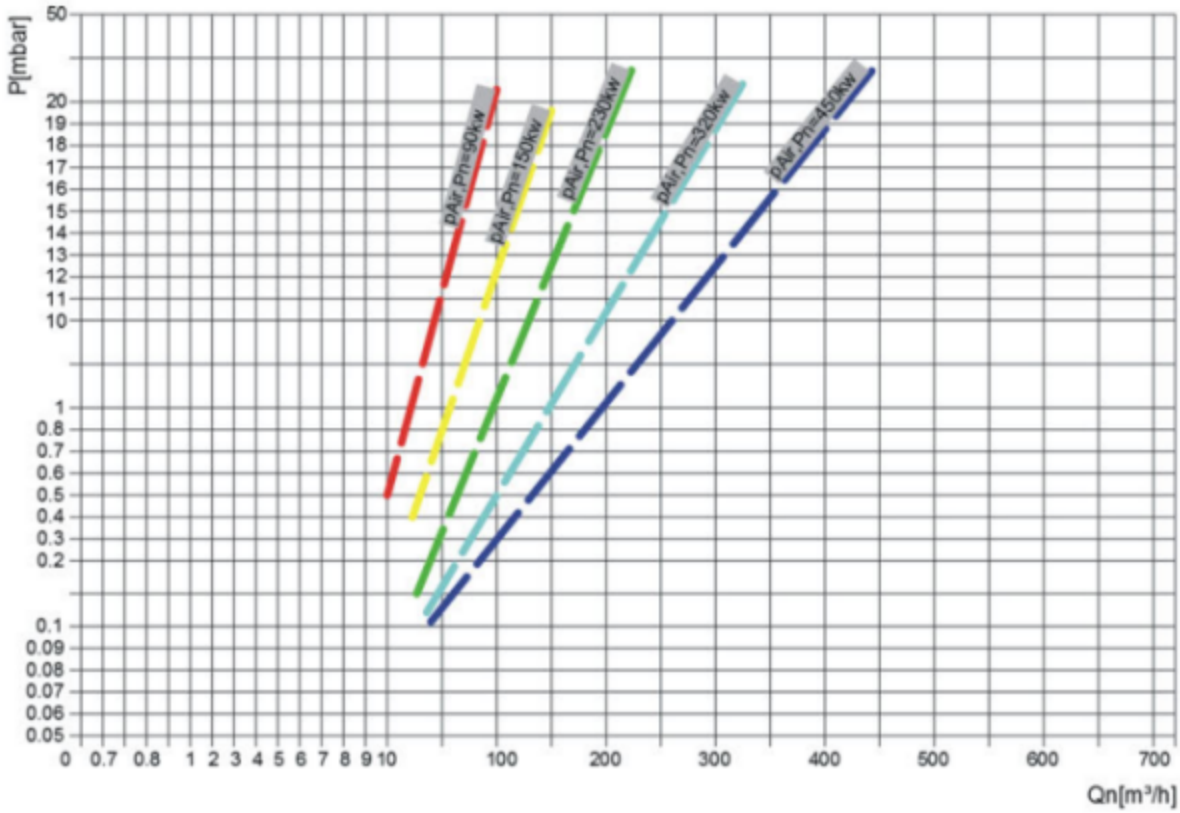


Gas Pressure Difference



Gas Pressure

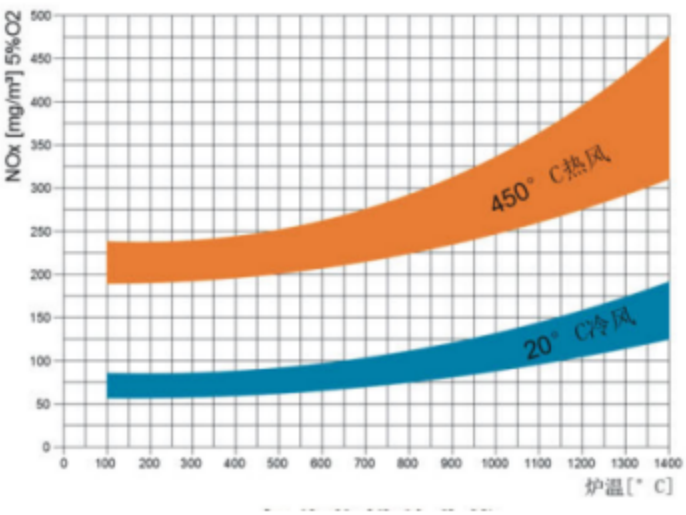
Pressure-flow characteristics



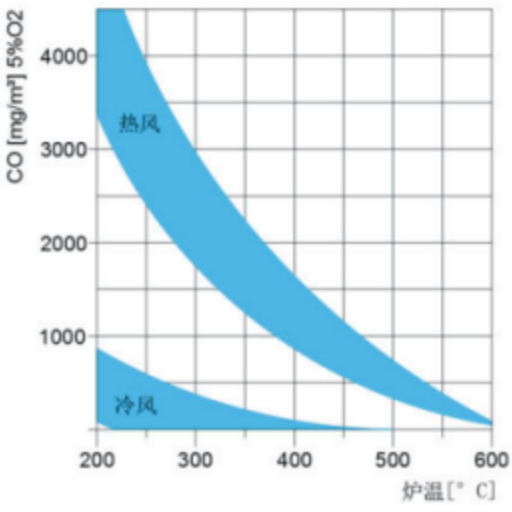
Air Pressure

A1065/80/1 00/125/140HB Pressure-Flow Curve

Emission

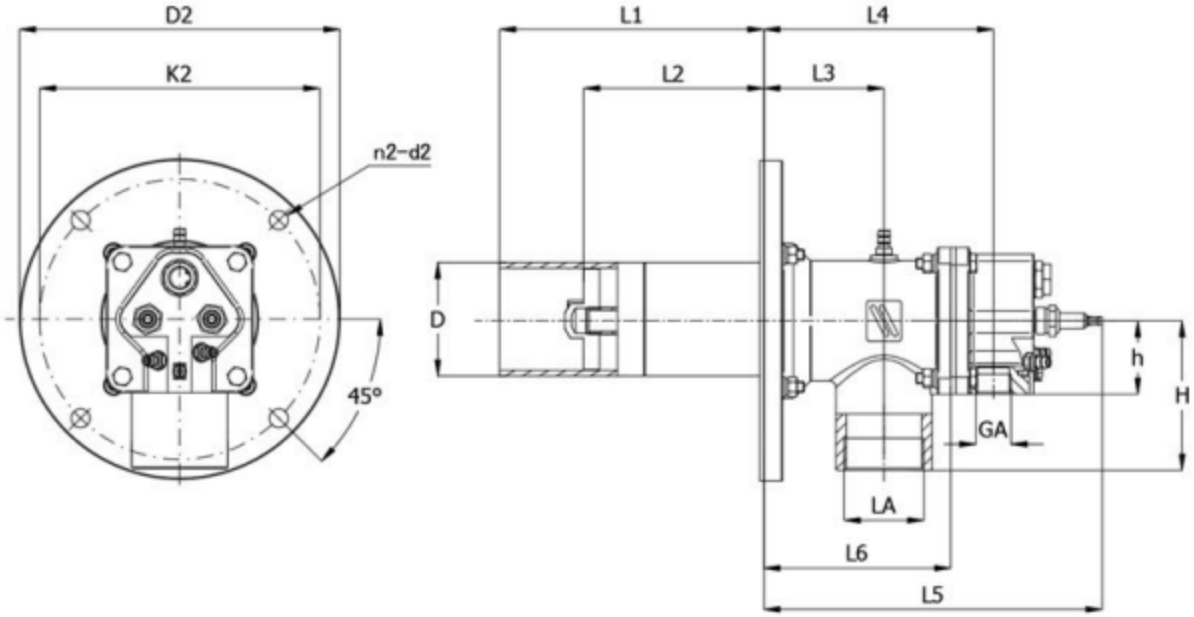


Nitride emission curve

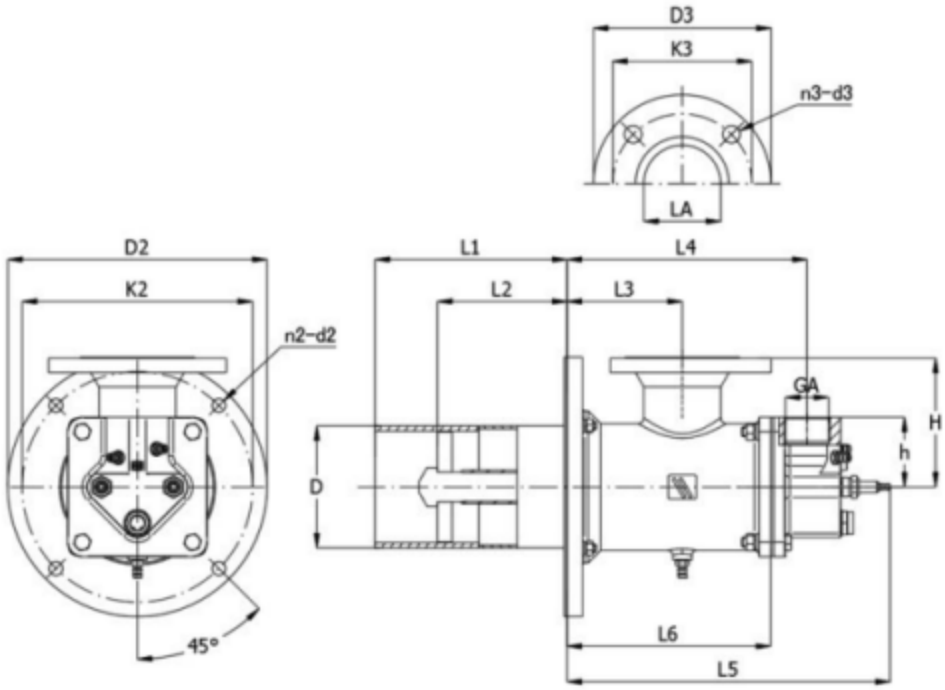


Carbon monoxide emission curve

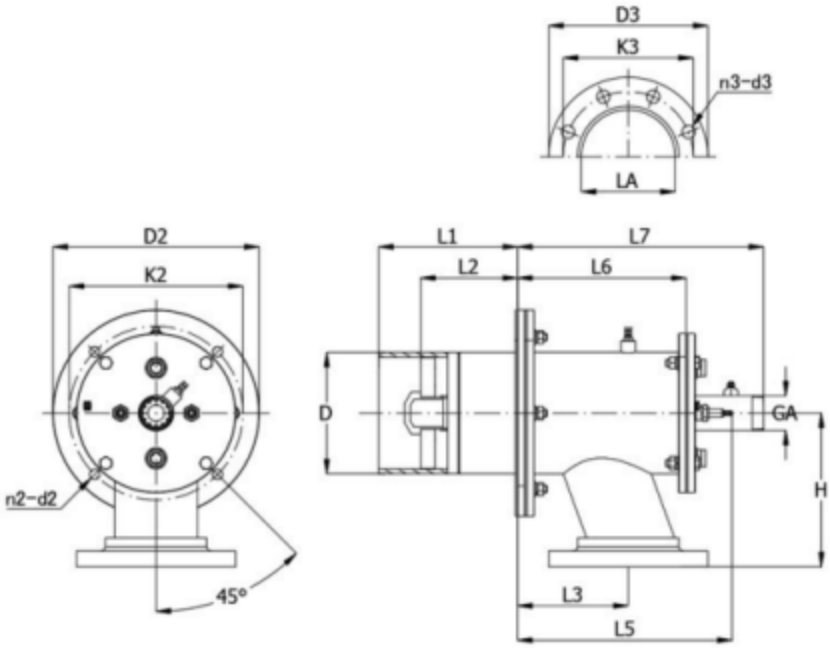
The specific installation dimensions of cast iron shell are shown in the table below.



AIO 65/80/100/125 Installation Dimension



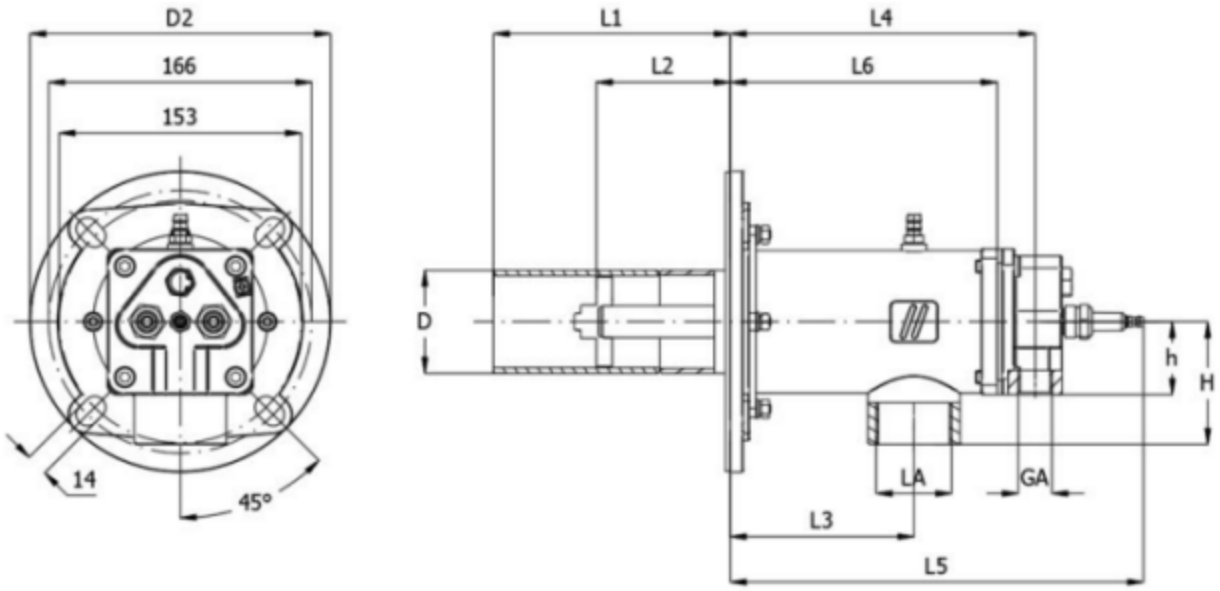
AIO 125/140 Installation Dimension



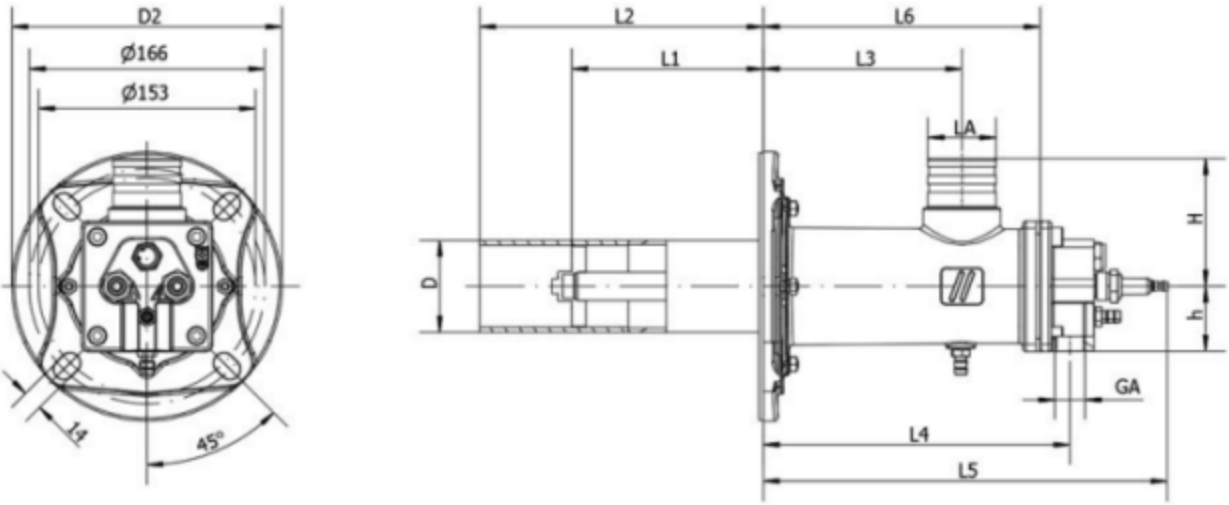
AIO 165/200 Installation Dimension

Model	Specifications	Maximum Power/kW	Dimension/mm								
			D	GA	LA	H	h	L3	L4	L5	L6
AIO	65	90	65	Rp3/4	Rp 1 1/2	62	48	73	155	231	127
AIO	80	150	85	Rp3/4	Rp2	112	55	90	172	254	140
AIO	100	230	102	Rp 1	Rp2	100	60	103	185	266	153
AIO	125	320	127	Rp 1 1/2	DN 65	135	72.5	120	250	337	212
AIO	140	450	140	Rp 1 1/2	DN 80	150	80	130	271	363	232
AIO	165	630	168	R1 1/2	DN 100	212.5	-	152	-	296	232
AIO	200	1000	194	R2	DN 150	232	-	220	-	402	340
			Dimension/mm								
			D2	k2	d2	n2	L7	D3	k3	d3	n3
AIO	65	90	195	165	12	4	-	-	-	-	-
AIO	80	150	240	210	14	4	-	-	-	-	-
AIO	100	230	240	200	14	4	-	-	-	-	-
AIO	125	320	270	240	14	4	-	168	145	18	4
AIO	140	450	300	265	14	4	-	200	160	18	8
AIO	165	630	284	240	14	4	378	220	180	18	8
AIO	200	1000	330	295	22	8	529	285	240	22	8

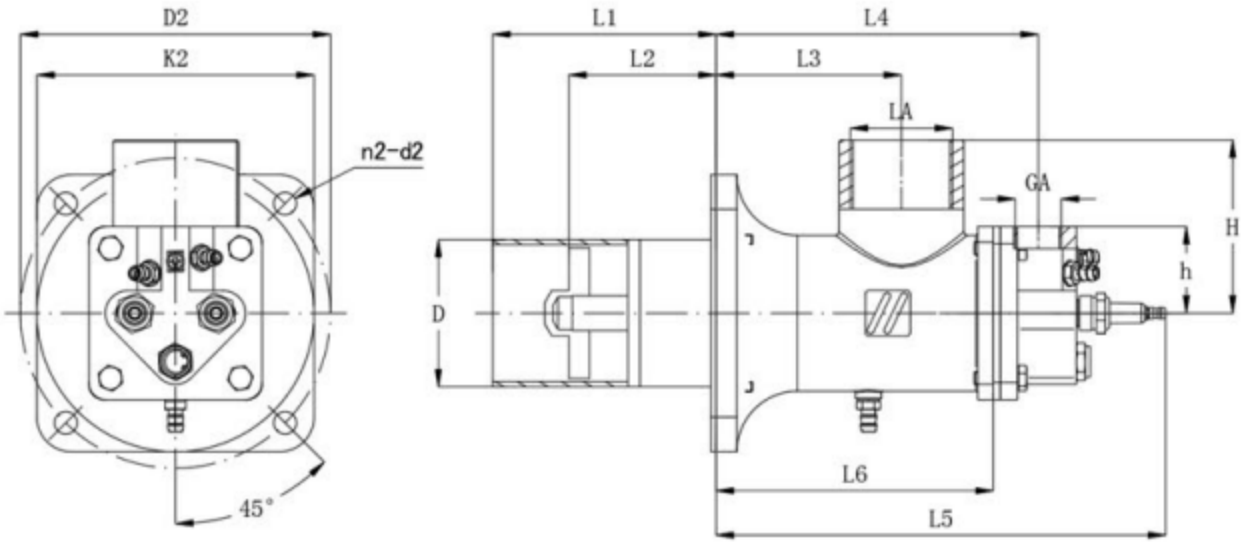
The specific installation Dimensions of cast aluminum shell is shown in the table below.



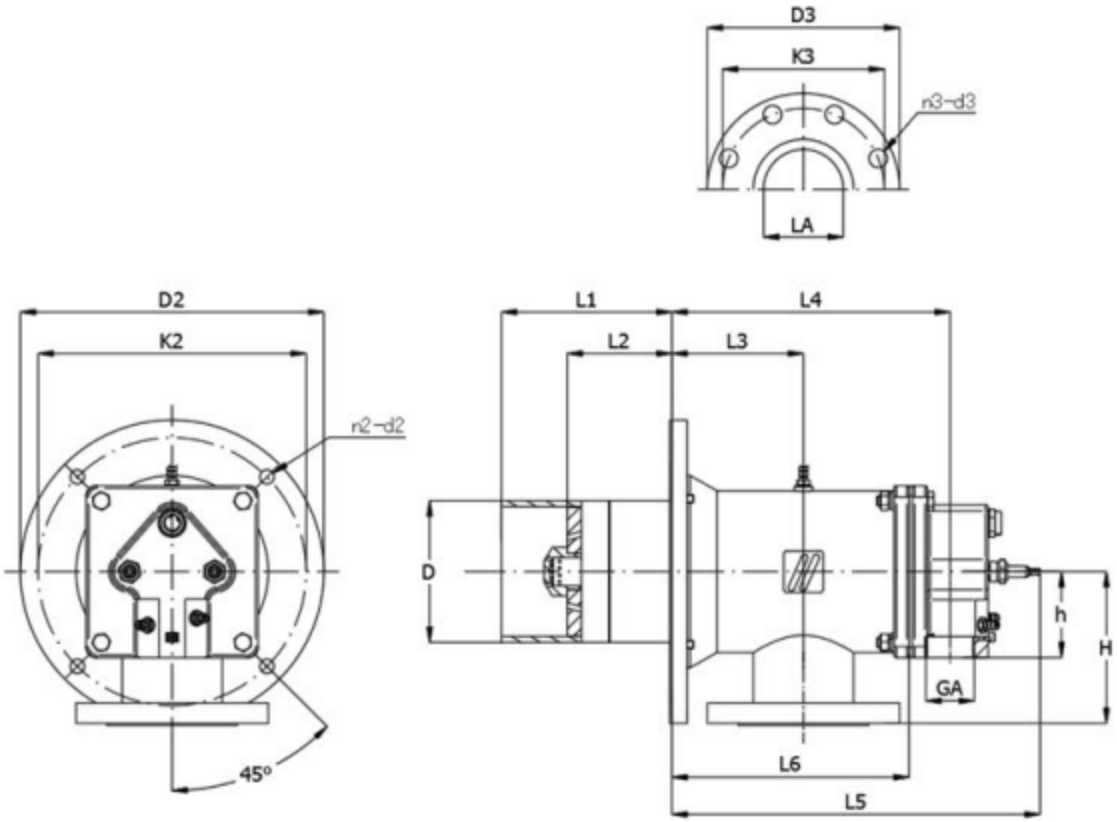
AIOA 65/80/100 Installation Dimension



AIOA 125/140 Installation Dimension



AIOA 65/80/100 Installation Dimension



AIOA 125/140 Installation Dimension

The installation Dimensions of cast aluminum shell is shown in the table below

Model	Specifications	Maximum Power/kW	Dimension/mm								
			D	GA	LA	H	h	L3	L4	L5	L6
AI0A	65 (thread)	90	65	Rp 1/2	Rp 1 1/2	77	46	116	192	261	168
AI0A	65 (buckle)	90	65	Rp 1/2	DN 40	90	46	140	192	261	168
AI0A	80	150	85	Rp 3/4	Rp 2	100	50	107	186	260	160
AI0A	100	230	102	Rp 1	Rp 2	100	60	103	185	266	153
AI0A	125	320	127	Rp 1 1/2	DN 65	135	72	120	250	337	212
AI0A	140	450	140	Rp 1 1/2	79	152	85	130	274	364	234
			Dimension/mm								
			D2	k2	d2	n2	D3	k3	d3	n3	
AI0A	65 (thread)	90	190	As shown in the figure	As shown in the figure	4	-	-	-	-	/
AI0A	65 (buckle)	90	190	As shown in the figure	As shown in the figure	4	-	-	-	-	
AI0A	80	150	160	179	13	4	-	-	-	-	
AI0A	100	230	240	200	14	4	-	-	-	-	
AI0A	125	320	270	240	14	4	167	145	18	4	
AI0A	140	450	300	265	14	4	190	160	18	8	