GENERAL BRUCIATORI

AMR/AMRO

DuoBlock flame-register burners with electronic cam, available in heating outputs from 560 to 100,000 kW.

General Features

- Advanced flame-register combustion head design allows more precise control of air distribution and flame geometry throughout the modulation range. This provides better adaptation to different furnace and combustion chamber requirements, improving flame shaping, combustion stability, and application flexibility in demanding industrial processes.
- Designed for installation on most hot water, steam, and diathermic oil boilers, as well as asphalt plants, dryers, kilns, and incinerators. Thanks to its design and flame-shape adjustment capability, it can be easily adapted and integrated into both new and existing systems, making it an ideal solution for retrofit projects.
- Is designed to operate with different kind of standard fuels like gas, diesel, heavy oil or dual fuel system. On demand, it is possible to operate with special fuels as bio-gas, ethanol, waste gas, coal gas and many others.
- On request, multi-fuel versions are also available with simultaneous operation.
- The modular construction concept provides a wide range of customization options to suit any installation requirement.
- Can be equipped with ETC or LAMTEC control systems and associated burner peripherals, allowing the integration of advanced functions such as O2/CO control, flame monitoring, servomotor control, HMI operation, sensors, and communication interfaces for connection to plant and management systems.
- On all versions the modulation kit (Sensor + PID) is available
- Dedicated flame disk design, depending on the fuel that is burned, in order to grant the optimal turbulence and perfect combustion values.

InnoBurn
Customized Combustion Solutions

Complete customization

Complete customization at the technical and layout level includes:

- EM version with electronic control box and modulating system
- O2 and O2/CO control with efficiency calculation
- Frequency converter operation
- Separate or on-board control panel
- Plant Master for integrated boiler-burner management through a single interface
- Fuel flow meters for consumption monitoring
- Ex-d flame detectors and Ex-d servomotors
- Explosion-proof execution according to ATEX regulations

Burner body

- Powder coated carbon steel body guarantees robustness and ease of use.
- High quality and heat resistant steel for best wear and heat resistance.
- Free from plastic components, Ideal for heavy duty applications
- Possibility of gas train installation from left or right side as standard according to gas piping line
- Easy maintenance thanks to wide cover opening
- Wide flame viewer on the rear part of the burner

Combustion head

- Combustion head and flame stability disk in stainless steel
- Dedicated flame disk design, depending on the fuel that is burned, in order to grant the optimal turbulence and perfect combustion values
- Pilot flame ignition system to prevent pulsation or defective ignition
- Low NOx blast pipe design (on demand)

Fan

Combustion air fan is available and customizable in accordance to installation layout and technical specification

Gas Train

- Gas filter
- Main gas Valve with actuators
- Minimum gas pressure switch
- Maximum gas pressure switch (The maximum gas pressure switch is installed on the gas flow adjustment butterfly on burner board)
- it is possible to manufacture gas ramps in accordance with different customer specifications for any application

On demand

- ✓ Anti-Vibrating joint
- ✓ Ball Valve
- ✓ Gas pressure reducer
- ✓ Safety shut off valve
- ✓ ATEX execution
- ✓ IP65 execution

Control panels

- Main switch with door coupling
- BMS unit
- User interface
- Fan control
- Oil pump control
- Pre-heater oil control
- Overcurrent protection devices
- Terminal strips
- Signal lamps
- Failure reset Botton
- Burner control switch
- Auxiliary relays

On demand

- ✓ PID controller
- ✓ Remote start/stop
- ✓ Main electrical supply
- ✓ Alarm ball
- ✓ Potential free-alarms

Heavy oil pushing unit

- Containment tank in painted carbon steel
- Degassing tank
- Ball valves
- Self cleaning oil filter
- Oil filter
- Oil pressure gauge on the supply circuit (installed on burner)
- Oil pump with pressure control valve
- Electromotor
- Flexible pipes
- Electrical oil pre-heater
- Safety valve
- Temperature probe

On demand

- ✓ Electrical and steam oil preheater
- ✓ Oil inlet pressure gauge
- ✓ Minimum oil supply Pressure switch
- ✓ Minimum oil ring Pressure switch
- ✓ Control panel
- ✓ Twin pump group with filter and bypass
- ✓ Pumping unit for main ring line
- ✓ Control panel for ring line pump unit

Light oil pushing unit

- Containment tank in painted carbon steel
- Degassing tank
- Ball valves
- Oil filter
- Oil pressure gauge on the supply circuit (installed on burner)
- Oil pump with pressure control valve
- Electromotor
- Flexible pipes

On demand

- ✓ Oil inlet pressure gauge
- ✓ Minimum oil supply Pressure switch
- ✓ Control panel
- ✓ Twin pump group with filter and bypass
- ✓ Pumping unit for main ring line
- ✓ Control panel for ring line pump unit

Certifications

Compliant with EU safety rules (CE Standards) and built according to EN ISO 9001:2015 Quality System

Model			AMR AMRO 3	AMR AMRO 4	AMR AMRO 5	AMR AMRO 6
Heating Output	Output	Min* - Max (Kw)	560 - 2,800	780 - 3,900	1,220 - 6,100	1,900 - 9,500
Main Fuel Data	H.F.O Flow Rate	Min - Max (Kg/h)	50 - 251	70 - 349	109 - 546	170 - 851
	HFO Viscosity	°E - cSt	50°C E at 50°C - 400 cSt at 50°C			
	Light Oil Flow Rate	Min - Max (Kg/h)	47 - 236	66 - 329	103 - 514	160 - 801
	Light Oil Viscosity	°E - cSt	1.5°C E at 50°C - 6 cSt at 50°C			
	Natural Gas (G20) Flow Rate		56 - 280	78 - 390	122 - 610	190 - 950
	Max Gas Pressure	mbar	500			
Operational Data	Standard Configuration		To be installed in safe area-one stop each 24hrs operation is required (72hrs operation with self-check available on demand)			
	Available Execution		Mechanical Modulation-electronic Modulation			
	Modulating Ratio		1:5 Gas Firing - 1:3 light Oil - 1:3 Heavy Oil			
	Working Temperature	Min - Max (°C)	-50°C + 50°C			
Electrical data / Ignition	Electric Supply	V - Hz	230 V - 50 Hz / 220 V - 60 Hz (On Demand)			
	Light Oil Ignition Transformer	V2 - 12 mA	13,000 V - 35 mA			
	Gas Ignition Transformer	V2 - 12 mA	8,000 V - 20 mA			
	Ignition Type		Pilot Burner On Gas / Direct Spark On Oil Side			
	Auxiliary Electrical Installed Power	Kw	0.65			
	Protection Level	IP	54			
Approvals	Directive		2006/42/CE - 2006/95CE - 2011/65/CE - 2004/108/CE			
	In Accordance Of		EN 60204-1 / EN 62233 / EN 61000-6-2 EN 61000-6-4 / EN 60529			

* Refer to natural gas . Reference conditions : Air temperature 20°C , Pressure 1013.5 mbar , Altitude 0 m a.s.l

The whole range is available with Low Nox configuration :

- Gas fired in Class III in accordance with EN 676 and related specification about combustion chamber dimensions and thermal load.The NOx level refer to the average NOx among the burner's working curve.

- Light Oil fired Low NOx in accordance to EN 267

PLease note that fuel consumption might also affect the NOx levels

Model			AMR AMRO 7	AMR AMRO 8	AMR AMRO 9	AMR AMRO 10
Heating Output	Output	Min* - Max (Kw)	2,250 - 11,160	3,150 - 15,630	4,000 - 20,000	4,900 - 24,500
Main Fuel Data	H.F.O Flow Rate	Min - Max (Kg/h)	202 - 1,000	282 - 1,400	358 - 1,792	439 - 2,195
	HFO Viscosity	°E - cSt	50°C E at 50°C - 400 cSt at 50°C			
	Light Oil Flow Rate	Min - Max (Kg/h)	190 - 941	266 - 1,318	337 - 1,686	413 - 2,066
	Light Oil Viscosity	°E - cSt	1.5°C E at 50°C - 6 cSt at 50°C			
	Natural Gas (G20) Flow Rate		225 - 1,116	315 - 1,563	400 - 2,000	490 - 2,450
	Max Gas Pressure	mbar	500			
Operational Data	Standard Configuration		To be installed in safe area-one stop each 24hrs operation is required (72hrs operation with self-check available on demand)			
	Available Execution		Mechanical Modulation-electronic Modulation			
	Modulating Ratio		1:5 Gas Firing - 1:3 light Oil - 1:3 Heavy Oil			
	Working Temperature	Min - Max (°C)	-50°C + 50°C			
Electrical data / Ignition	Electric Supply	V - Hz	230 V - 50 Hz / 220 V - 60 Hz (On Demand)			
	Light Oil Ignition Transformer	V2 - 12 mA	13,000 V - 35 mA			
	Gas Ignition Transformer	V2 - 12 mA	8,000 V - 20 mA			
	Ignition Type		Pilot Burner On Gas / Direct Spark On Oil Side			
	Auxiliary Electrical Installed Power	Kw	0.65			
	Protection Level	IP	54			
Approvals	Directive		2006/42/CE - 2006/95CE - 2011/65/CE - 2004/108/CE			
	In Accordance Of		EN 60204-1 / EN 62233 / EN 61000-6-2 EN 61000-6-4 / EN 60529			

* Refer to natural gas . Reference conditions : Air temperature 20°C , Pressure 1013.5 mbar , Altitude 0 m a.s.l

The whole range is available with Low Nox configuration :

- Gas fired in Class III in accordance with EN 676 and related specification about combustion chamber dimensions and thermal load.The NOx level refer to the average NOx among the burner's working curve.

- Light Oil fired Low NOx in accordance to EN 267

PLease note that fuel consumption might also affect the NOx levels

Model			AMR AMRO 11	AMR AMRO 12	AMR AMRO 13	AMR AMRO 14
Heating Output	Output	Min* - Max (Kw)	6,000 - 29,000	6,700 - 33,500	7,800 - 39,000	8,950 - 44,650
Main Fuel Data	H.F.O Flow Rate	Min - Max (Kg/h)	538 - 2,598	600 - 2,598	699 - 3,494	802 - 4,000
	HFO Viscosity	°E - cSt	50°C E at 50°C - 400 cSt at 50°C			
	Light Oil Flow Rate	Min - Max (Kg/h)	506 - 2,445	506 - 2,445	658 - 3,288	755 - 3,765
	Light Oil Viscosity	°E - cSt	1.5°C E at 50°C - 6 cSt at 50°C			
	Natural Gas (G20) Flow Rate		600 - 2,900	600 - 2,900	780 - 3,900	895 - 4,465
	Max Gas Pressure	mbar	500			
Operational Data	Standard Configuration		To be installed in safe area-one stop each 24hrs operation is required (72hrs operation with self-check available on demand)			
	Available Execution		Mechanical Modulation-electronic Modulation			
	Modulating Ratio		1:5 Gas Firing - 1:3 light Oil - 1:3 Heavy Oil			
	Working Temperature	Min - Max (°C)	-50°C + 50°C			
Electrical data / Ignition	Electric Supply	V - Hz	230 V - 50 Hz / 220 V - 60 Hz (On Demand)			
	Light Oil Ignition Transformer	V2 - 12 mA	13,000 V - 35 mA			
	Gas Ignition Transformer	V2 - 12 mA	8,000 V - 20 mA			
	Ignition Type		Pilot Burner On Gas / Direct Spark On Oil Side			
	Auxiliary Electrical Installed Power	Kw	0.65			
	Protection Level	IP	54			
Approvals	Directive		2006/42/CE - 2006/95CE - 2011/65/CE - 2004/108/CE			
	In Accordance Of		EN 60204-1 / EN 62233 / EN 61000-6-2 EN 61000-6-4 / EN 60529			

* Refer to natural gas . Reference conditions : Air temperature 20°C , Pressure 1013.5 mbar , Altitude 0 m a.s.l

The whole range is available with Low Nox configuration :

- Gas fired in Class III in accordance with EN 676 and related specification about combustion chamber dimensions and thermal load.The NOx level refer to the average NOx among the burner's working curve.

- Light Oil fired Low NOx in accordance to EN 267

PLease note that fuel consumption might also affect the NOx levels

Model			AMR AMRO 15	AMR AMRO 16	AMR AMRO 17	AMR AMRO 18
Heating Output	Output	Min* - Max (Kw)	10,100 - 50,200	11,200 - 55,800	12,600 - 63,000	14,000-70,000
Main Fuel Data	H.F.O Flow Rate	Min - Max (Kg/h)	905 - 4,497	1,003 - 4,999	1,129 - 5,644	1,129-5,644
	HFO Viscosity	°E - cSt	50°C E at 50°C - 400 cSt at 50°C			
	Light Oil Flow Rate	Min - Max (Kg/h)	852 - 4,233	944 - 4,705	1,062 - 5,312	1,180-5,902
	Light Oil Viscosity	°E - cSt	1.5°C E at 50°C - 6 cSt at 50°C			
	Natural Gas (G20) Flow Rate		1,010 - 5,020	1,120 - 5,580	1,260 - 6,300	1,400-7,000
	Max Gas Pressure	mbar	500			
Operational Data	Standard Configuration		To be installed in safe area-one stop each 24hrs operation is required (72hrs operation with self-check available on demand)			
	Available Execution		Mechanical Modulation-electronic Modulation			
	Modulating Ratio		1:5 Gas Firing - 1:3 light Oil - 1:3 Heavy Oil			
	Working Temperature	Min - Max (°C)	-50°C + 50°C			
Electrical data / Ignition	Electric Supply	V - Hz	230 V - 50 Hz / 220 V - 60 Hz (On Demand)			
	Light Oil Ignition Transformer	V2 - 12 mA	13,000 V - 35 mA			
	Gas Ignition Transformer	V2 - 12 mA	8,000 V - 20 mA			
	Ignition Type		Pilot Burner On Gas / Direct Spark On Oil Side			
	Auxiliary Electrical Installed Power	Kw	0.65			
	Protection Level	IP	54			
Approvals	Directive		2006/42/CE - 2006/95CE - 2011/65/CE - 2004/108/CE			
	In Accordance Of		EN 60204-1 / EN 62233 / EN 61000-6-2 EN 61000-6-4 / EN 60529			

* Refer to natural gas . Reference conditions : Air temperature 20°C , Pressure 1013.5 mbar , Altitude 0 m a.s.l

The whole range is available with Low Nox configuration :

- Gas fired in Class III in accordance with EN 676 and related specification about combustion chamber dimensions and thermal load.The NOx level refer to the average NOx among the burner's working curve.

- Light Oil fired Low NOx in accordance to EN 267

PLease note that fuel consumption might also affect the NOx levels

Model			AMR AMRO 19	AMR AMRO 20	AMR AMRO 21
Heating Output	Output	Min* - Max (Kw)	15,000-79,000	17,200-86,000	20,000-100,000
Main Fuel Data	H.F.O Flow Rate	Min - Max (Kg/h)	1,254-6,271	1,344-7,074	1,792-8,958
	HFO Viscosity	°E - cSt	50°C E at 50°C - 400 cSt at 50°C		
	Light Oil Flow Rate	Min - Max (Kg/h)	1,265-6,661	1,450-7,251	1,686-8,431
	Light Oil Viscosity	°E - cSt	1.5°C E at 50°C - 6 cSt at 50°C		
	Natural Gas (G20) Flow Rate		1,500-7,900	1,720-8,600	2,000-10,000
	Max Gas Pressure	mbar	500		
Operational Data	Standard Configuration		To be installed in safe area-one stop each 24hrs operation is required (72hrs operation with self-check available on demand)		
	Available Execution		Mechanical Modulation-electronic Modulation		
	Modulating Ratio		1:5 Gas Firing - 1:3 light Oil - 1:3 Heavy Oil		
	Working Temperature	Min - Max (°C)	-50°C + 50°C		
Electrical data / Ignition	Electric Supply	V - Hz	230 V - 50 Hz / 220 V - 60 Hz (On Demand)		
	Light Oil Ignition Transformer	V2 - 12 mA	13,000 V - 35 mA		
	Gas Ignition Transformer	V2 - 12 mA	8,000 V - 20 mA		
	Ignition Type		Pilot Burner On Gas / Direct Spark On Oil Side		
	Auxiliary Electrical Installed Power	Kw	0.65		
	Protection Level	IP	54		
Approvals	Directive		2006/42/CE - 2006/95CE - 2011/65/CE - 2004/108/CE		
	In Accordance Of		EN 60204-1 / EN 62233 / EN 61000-6-2 EN 61000-6-4 / EN 60529		

* Refer to natural gas . Reference conditions : Air temperature 20°C , Pressure 1013.5 mbar , Altitude 0 m a.s.l

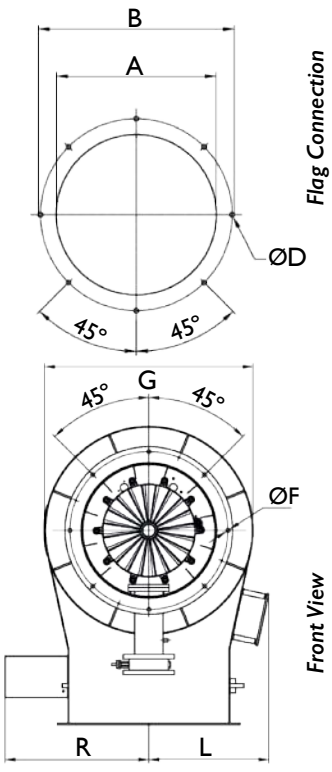
The whole range is available with Low Nox configuration :

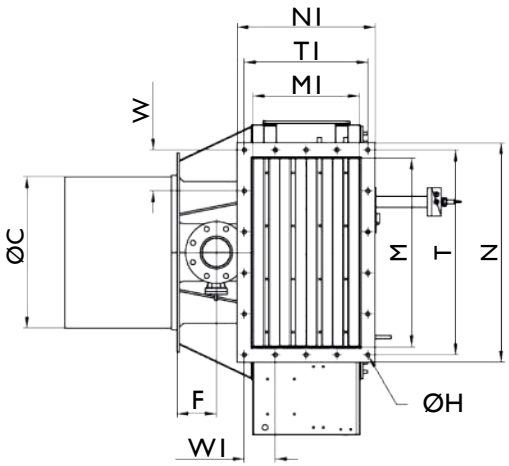
- Gas fired in Class III in accordance with EN 676 and related specification about combustion chamber dimensions and thermal load.The NOx level refer to the average NOx among the burner's working curve.

- Light Oil fired Low NOx in accordance to EN 267

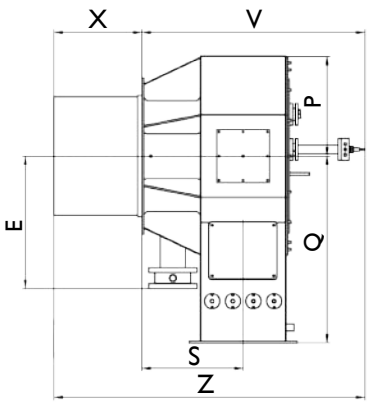
PLease note that fuel consumption might also affect the NOx levels

Model	A	B	C	ØF	E	ØH	L	G	M	M1	N	N1	P	Q	R	S	T	T1	V	W	W1	X*	Z	ØD
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Type×mm
AMRO 3	270	356	240	16	374	14	500	600	400	220	500	320	300	600	508	290	450	270	540	150	135	500	1,040	M14 × 50
AMRO 4	310	396	290	16	404	14	520	648	430	250	530	350	324	650	523	310	480	300	550	120	100	500	1,050	M14 × 50
AMRO 5	380	466	350	16	453	14	530	718	450	250	550	350	359	700	533	330	500	300	560	100	100	500	1,060	M14 × 50
AMRO 6	450	536	420	16	498	14	570	788	530	310	630	410	394	750	573	400	580	360	650	116	120	500	1,150	M14 × 50
AMRO 7	510	602	480	16	548	14	610	848	600	340	700	440	424	800	608	435	650	390	720	130	130	500	1,220	M14 × 50
AMRO 8	570	662	540	16	605	14	650	908	680	390	780	490	454	850	648	460	730	440	760	146	110	500	1,260	M14 × 50
AMRO 9	630	722	600	18	654	14	660	968	700	450	800	550	484	900	658	505	750	500	840	150	125	500	1,340	M16 × 50
AMRO 10	680	842	650	18	705	14	700	1,068	790	550	890	650	534	950	703	633	840	600	920	140	120	500	1,420	M16 × 50
AMRO 11	750	842	720	18	754	14	720	1,242	820	550	920	650	621	1,010	718	675	870	600	1,050	145	120	500	1,550	M16 × 50
AMRO 12	830	912	800	18	795	14	710	1,292	804	602	904	702	646	1,050	710	700	854	652	1,120	142	130	500	1,620	M16 × 50
AMRO 13	890	982	860	18	917	14	730	1,344	852	622	952	722	672	1,170	734	710	902	672	1,120	150	134	500	1,640	M16 × 50
AMRO 14	950	1,042	920	18	995	14	760	1,500	900	620	1,000	720	750	1,250	758	760	950	670	1,140	95	134	500	1,700	M16 × 50
AMRO 15	1,010	1,100	980	18	1,045	14	780	1,558	900	650	1,000	750	779	1,300	758	790	950	700	1,200	95	140	500	1,750	M16 × 50
AMRO 16	1,070	1,160	1,040	18	1,095	14	810	1,600	1,000	700	1,100	800	800	1,400	808	820	1,050	750	1,250	105	125	500	1,800	M16 × 50
AMRO 17	1,130	1,220	1,100	18	1,115	14	870	1,708	1,100	750	1,200	850	854	1,400	858	900	1,150	800	1,300	115	160	500	1,850	M16 × 50
AMRO 18	1,180	1,280	1,150	18	1,145	14	1,000	1,808	1,200	800	1,300	900	904	1,400	909	1,000	1,250	850	1,350	125	170	500	1,900	M16 × 50
AMRO 19	1,250	1,350	1,220	18	1,196	14	1,080	1,908	1,250	850	1,350	950	954	1,450	933	1,100	1,300	900	1,400	130	100	500	2,000	M16 × 50
AMRO 20	1,370	1,380	1,280	18	1,244	14	1,100	2,000	1,300	900	1,400	1,000	1,000	1,500	958	1,200	1,350	950	1,500	135	95	500	2,235	M16 × 50
AMRO 21	1,480	1,410	1,350	18	1,292	14	1,200	2,100	1,350	950	1,450	1,050	1,050	1,500	983	1,300	1,400	1,000	1,950	140	100	500	2,450	M16 × 50



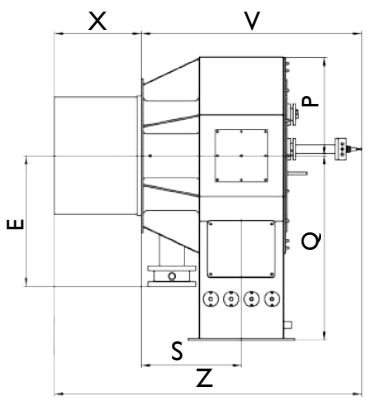


Bottom View

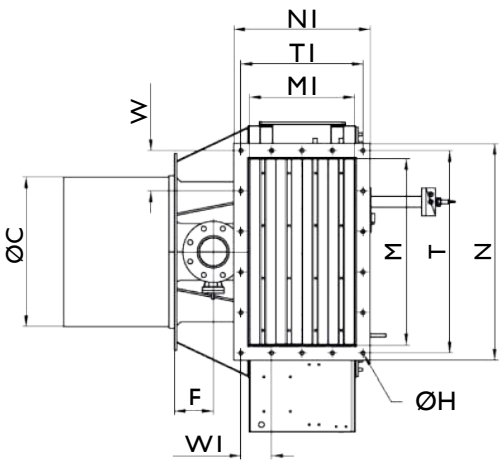


Side View

Model	A	B	C	ØF	E	ØH	L	G	M	M1	N	N1	P	Q	R	S	T	T1	V	W	W1	X*	Z	ØD
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Type×mm
AMRO 3	270	356	240	16	374	14	500	600	400	220	500	320	300	600	508	290	450	270	540	150	135	500	1,040	M14 × 50
AMRO 4	310	396	290	16	404	14	520	648	430	250	530	350	324	650	523	310	480	300	550	120	100	500	1,050	M14 × 50
AMRO 5	380	466	350	16	453	14	530	718	450	250	550	350	359	700	533	330	500	300	560	100	100	500	1,060	M14 × 50
AMRO 6	450	536	420	16	498	14	570	788	530	310	630	410	394	750	573	400	580	360	650	116	120	500	1,150	M14 × 50
AMRO 7	510	602	480	16	548	14	610	848	600	340	700	440	424	800	608	435	650	390	720	130	130	500	1,220	M14 × 50
AMRO 8	570	662	540	16	605	14	650	908	680	390	780	490	454	850	648	460	730	440	760	146	110	500	1,260	M14 × 50
AMRO 9	630	722	600	18	654	14	660	968	700	450	800	550	484	900	658	505	750	500	840	150	125	500	1,340	M16 × 50
AMRO 10	680	842	650	18	705	14	700	1,068	790	550	890	650	534	950	703	633	840	600	920	140	120	500	1,420	M16 × 50
AMRO 11	750	842	720	18	754	14	720	1,242	820	550	920	650	621	1,010	718	675	870	600	1,050	145	120	500	1,550	M16 × 50
AMRO 12	830	912	800	18	795	14	710	1,292	804	602	904	702	646	1,050	710	700	854	652	1,120	142	130	500	1,620	M16 × 50
AMRO 13	890	982	860	18	917	14	730	1,344	852	622	952	722	672	1,170	734	710	902	672	1,120	150	134	500	1,640	M16 × 50
AMRO 14	950	1,042	920	18	995	14	760	1,500	900	620	1,000	720	750	1,250	758	760	950	670	1,140	95	134	500	1,700	M16 × 50
AMRO 15	1,010	1,100	980	18	1,045	14	780	1,558	900	650	1,000	750	779	1,300	758	790	950	700	1,200	95	140	500	1,750	M16 × 50
AMRO 16	1,070	1,160	1,040	18	1,095	14	810	1,600	1,000	700	1,100	800	800	1,400	808	820	1,050	750	1,250	105	125	500	1,800	M16 × 50
AMRO 17	1,130	1,220	1,100	18	1,115	14	870	1,708	1,100	750	1,200	850	854	1,400	858	900	1,150	800	1,300	115	160	500	1,850	M16 × 50
AMRO 18	1,180	1,280	1,150	18	1,145	14	1,000	1,808	1,200	800	1,300	900	904	1,400	909	1,000	1,250	850	1,350	125	170	500	1,900	M16 × 50
AMRO 19	1,250	1,350	1,220	18	1,196	14	1,080	1,908	1,250	850	1,350	950	954	1,450	933	1,100	1,300	900	1,400	130	100	500	2,000	M16 × 50
AMRO 20	1,370	1,380	1,280	18	1,244	14	1,100	2,000	1,300	900	1,400	1,000	1,000	1,500	958	1,200	1,350	950	1,500	135	95	500	2,235	M16 × 50
AMRO 21	1,480	1,410	1,350	18	1,292	14	1,200	2,100	1,350	950	1,450	1,050	1,050	1,500	983	1,300	1,400	1,000	1,950	140	100	500	2,450	M16 × 50



Side View



Bottom View