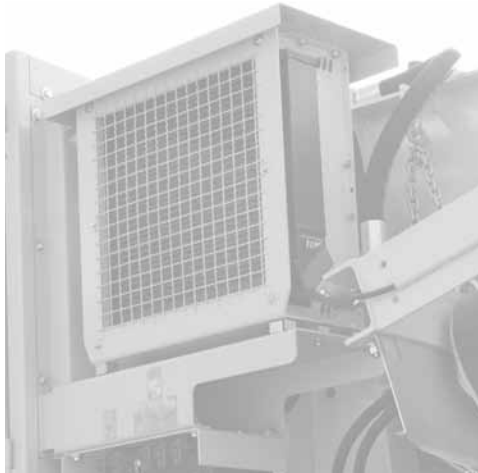


No.1 for
standard
heat
exchangers


asa**hydraulik**.com

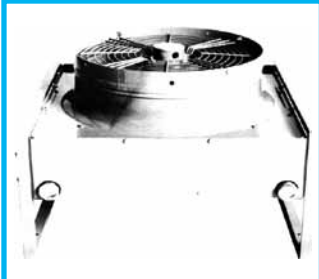


your
partner.

asa hydraulik of America
160 Meister Avenue 20 A
Branchburg, New Jersey 08876
Tel.: +1 800 473 94 00
Tel.: +1 908 541 15 00
Fax: +1 908 541 15 50
sales_us@asa**hydraulik**.com

asa

bl



1980



2014

asa progress in cooling

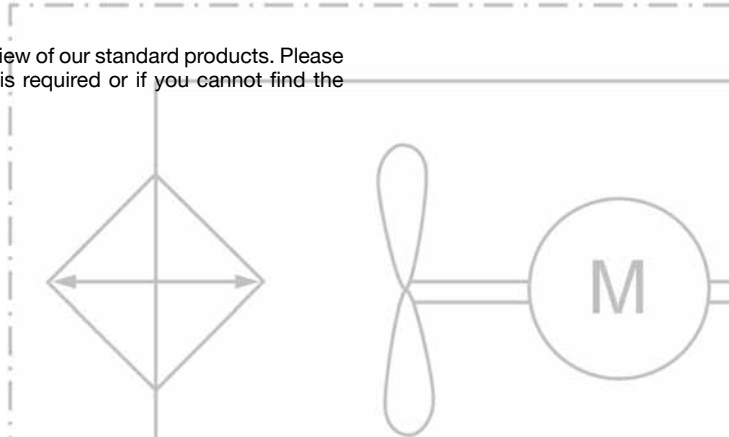
Progress in cooling stands for developments, advances and innovations already working in our customers' mobile and stationary applications, worldwide.

More than 30 years experience in heat transfer equipment and special hydraulic components has made us become a global leader in advanced technologies. Our **experience creates progress** to ensure you competitive pricing, consistent product performance and reliability.

asa's **global capacities** follow worldwide standards, confirmed by successful ISO 9001 quality management and client audits. The modular design and patented solutions of our products offer many advantages for customizing the product to your application.

Over the years, asa has continually developed into a globally active systems supplier. Despite this evolution, we consciously maintained the medium sized structure of a family owned company. As a result we are able to respond quickly and flexibly to our customer's demands and to promote our innovations.

This catalogue provides a technical overview of our standard products. Please contact us, if more detailed information is required or if you cannot find the optimal product for you.



progress in cooling



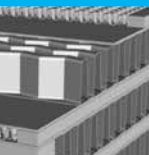
asa hydraulik GmbH, Austria / EU



asa of America, New Jersey / USA



asa hydraulik of Kunshan / CHINA



asa efficiency

asa blue efficiency keeps you 2 steps ahead!

Best practice standard oil cooler series assures success at all applications.

No limits through the first worldwide, flexible mounting and connection system

Optimized air flow from our uniquely quality engineered fan guard and electronic fan speed control options.

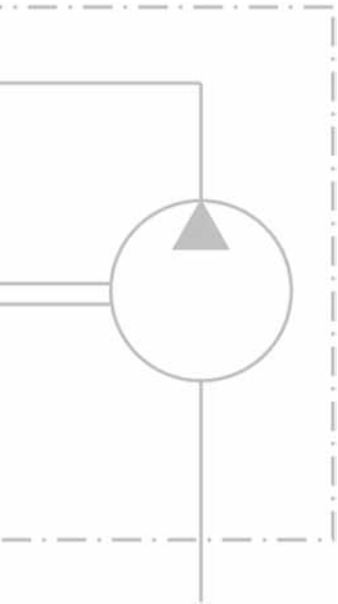
Combinations of cooler systems with tank and filter gain from the flexibility of each asa component.

Radiator with integrated bypass system to protect the cooler, e.g.: extremely viscous oil at cold start conditions.

Constant high quality through standard parts.

The most complete standard oil/air cooler program.

Compactness of serial produced parts as a function of capacity and life time.



standard is our definition

Standard Cooler Series from 0.1 to 250 BTU/min°F



asa coolers offer the advantages of a standard product and a customized one.

This means proven quality, best lead time and competitive prices, combined with flexibility and perfect fit into a given installation space so that the optimal performance output and best integration in to the system can be achieved.

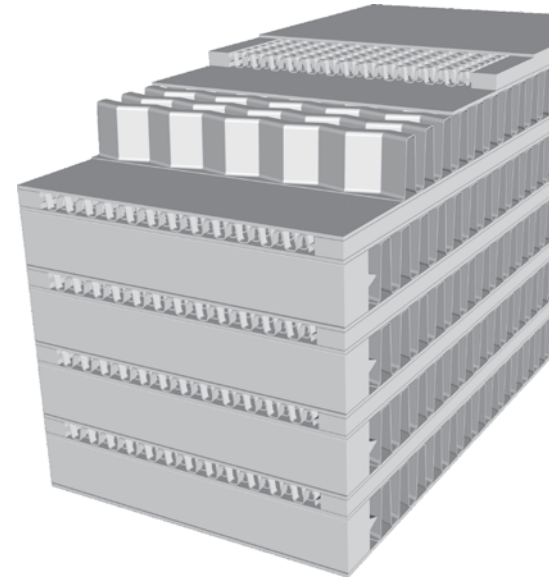
According to the cooler size, we offer various options and accessories to adapt the cooler to the customer's requirements. The benefits achieved, are not only for the application itself, but also for our customers' end product as an advantage against their competitors.

Pollution reduces performance!

Heavy polluted ambient air can clog the air side of the radiator and reduce the performance dramatically.

Our standard oil cooler radiators are designed with smooth wavy air fins to offer higher resistance against clogging.

The smooth air fin surfaces are easy to clean and have a constant performance output. Therefore the cooler can also be used in applications like on agricultural machines, recycling power packs, quarry and construction machines without any additional protection (depending on the degree of pollution).



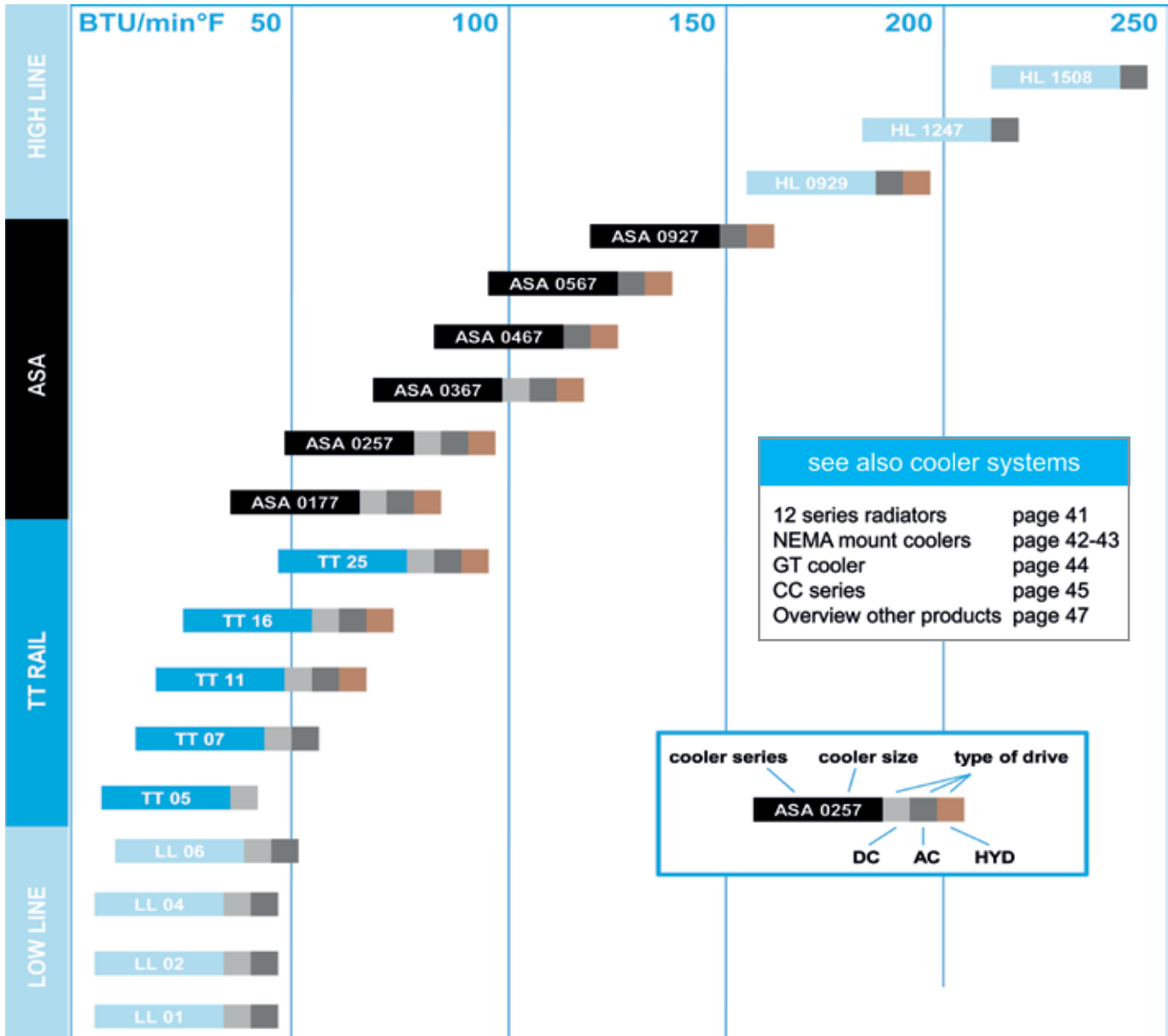
Customized 4 you with 2 systems (page 32/33)

Our asa rail system and asa universal connectors are the frame structure for easy and cost efficient adaption for various mounting systems and electronic control options.

Gain from the benefit of a fan speed control to extend the fan life time and keep the noise level to a minimum. The asa protection housing is designed with rubber vibration absorbers and a very robust metal housing to resist impacts on mobile applications.

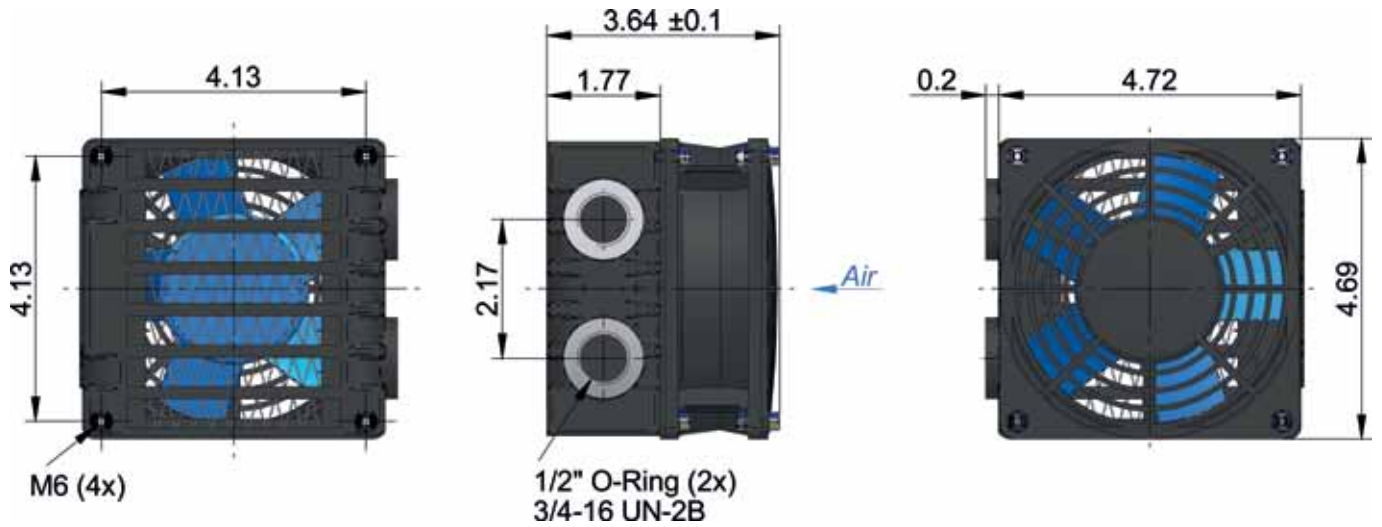


our standard range



Oil / Air Cooler LL 01 LowLine

12V / 24V DC

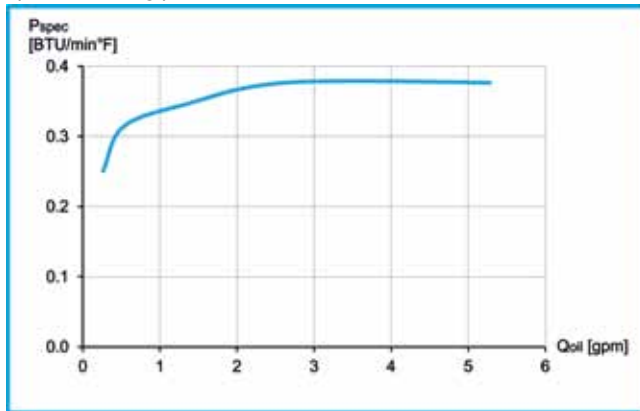


Technical Data

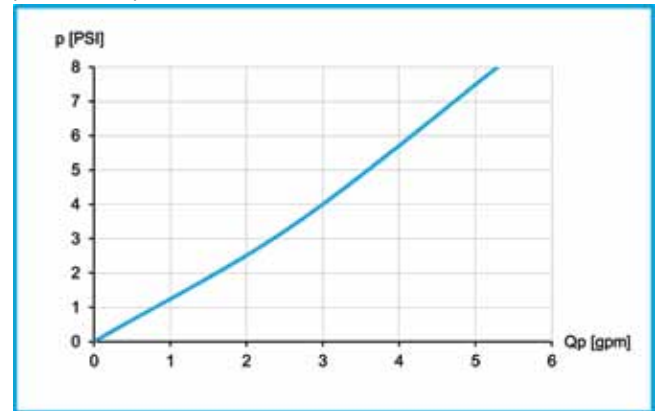
order number	description	motor power	current	protection level	air flow	noise level	weight
		[HP]	[A]		[SCFM]	[dB (A)]	[lbs]
ASA0013UD01	LL 01 12V DC	0.04	0.30	IP 20	70.6	44	3.08
ASA0013UD02	LL 01 24V DC	0.04	0.15	IP 20	70.6	44	3.08

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	370 PSI (static)

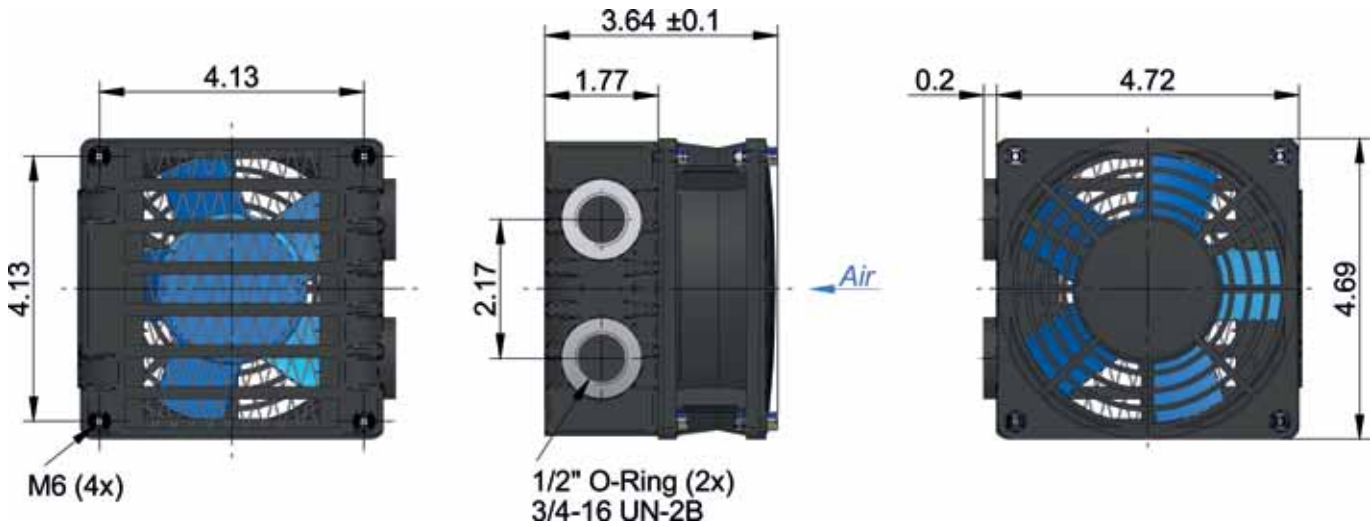
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Oil / Air Cooler LL 01 LowLine

115V / 60Hz

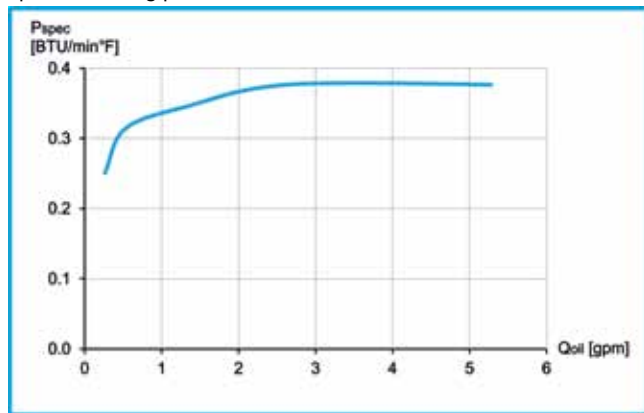


Technical Data

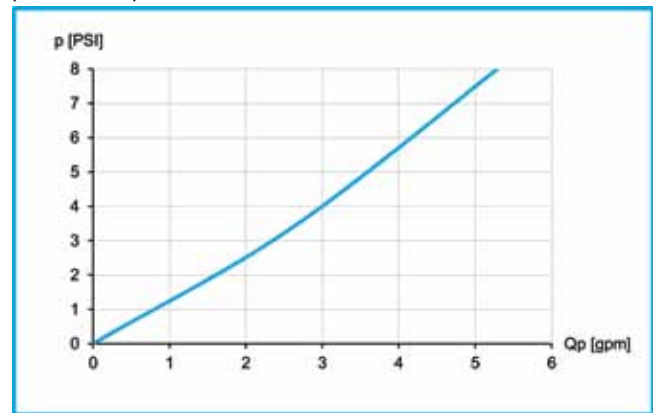
order number	description	motor power [HP]	current [A]	protection level	air flow [SCFM]	noise level [dB (A)]	weight [lbs]
ASA0013UE03	LL 01 115V AC	0.03	0.12	IP 20	70.6	41	3.08

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	370 PSI (static)

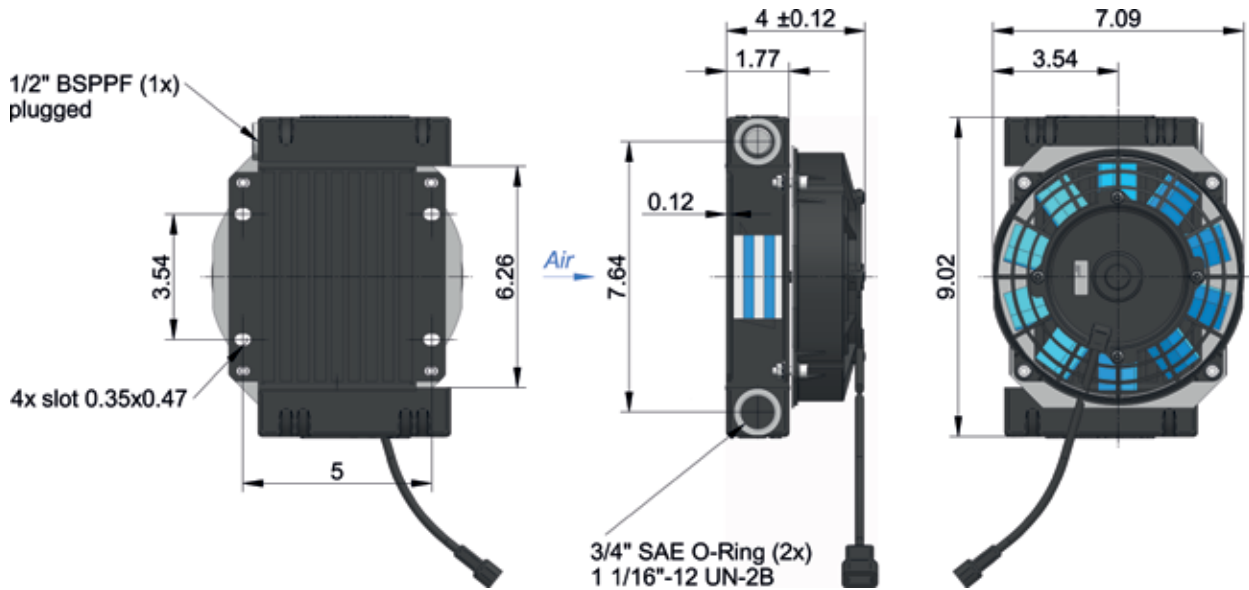
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Oil / Air Cooler LL 02 LowLine

12V / 24V DC

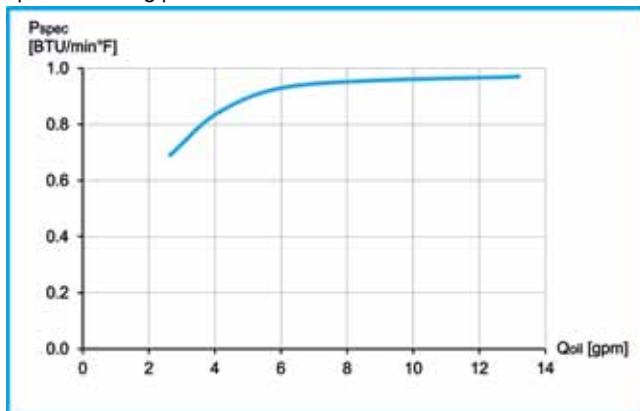


Technical Data

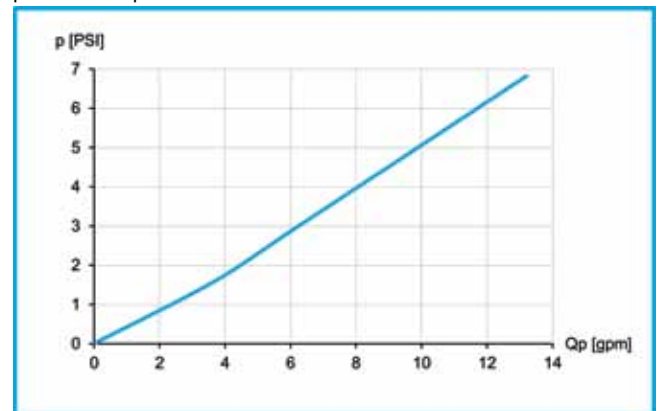
order number	description	motor power	current	protection level	air flow	noise level	weight
		[HP]	[A]		[SCFM]	[dB (A)]	[lbs]
ASA0023UD01	LL 02 12V DC	0.1	5.4	IP 68	247.1	73	5.94
ASA0023UD02	LL 02 24V DC	0.1	2.7	IP 68	247.1	73	5.94

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	370 PSI (static)

Options

temperature switch	122°F, 140°F or 194°F (page 38)
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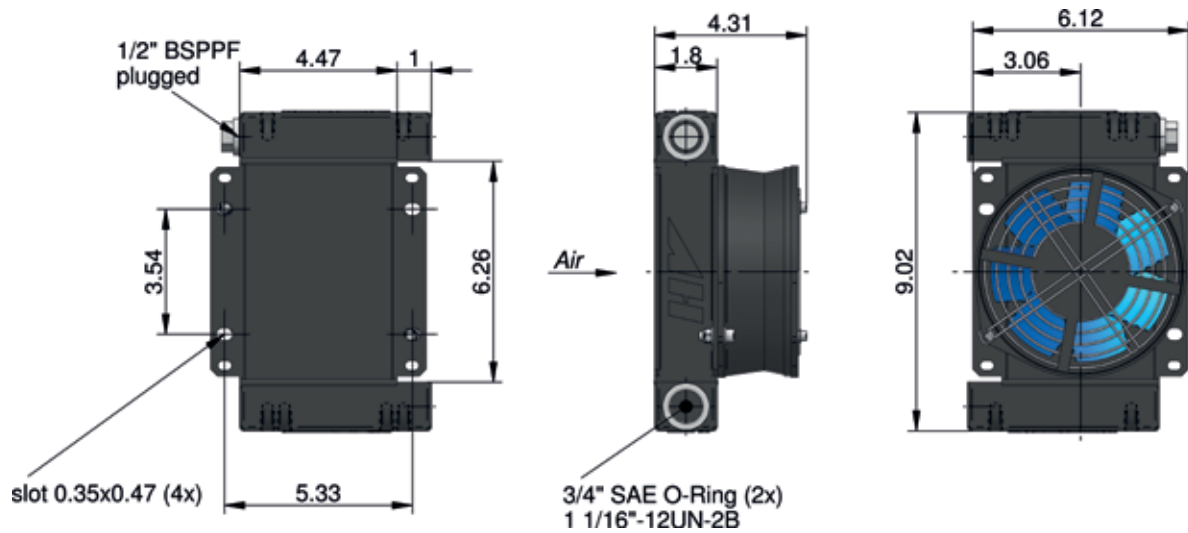
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Oil / Air Cooler TT Series

115V 60 Hz

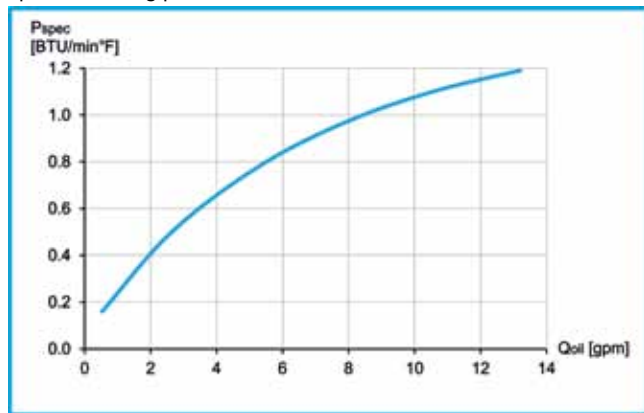


Technical Data

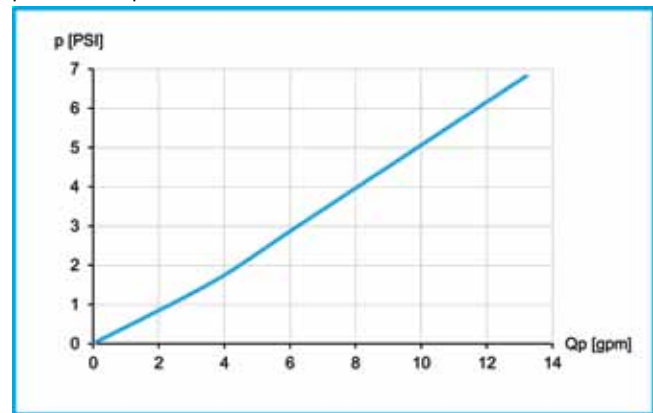
order number	description	motor power	current	protection level	air flow	noise level	weight
		[HP]	[A]		[SCFM]	[dB (A)]	[lbs]
ASA0023UE04	LL 02 115V AC	0.05	0.33	IP 20	70.6	54	5.5

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	370 PSI (static)

Options

temperature switch	122°F, 140°F or 194°F (page 38)
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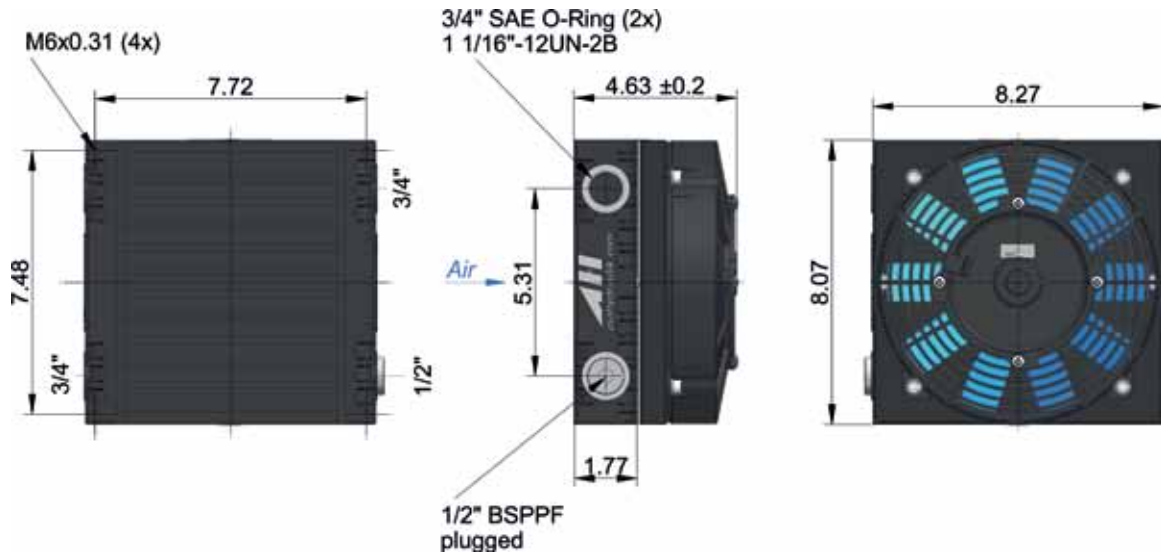
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Oil / Air Cooler LL 04 LowLine

12V /24V DC

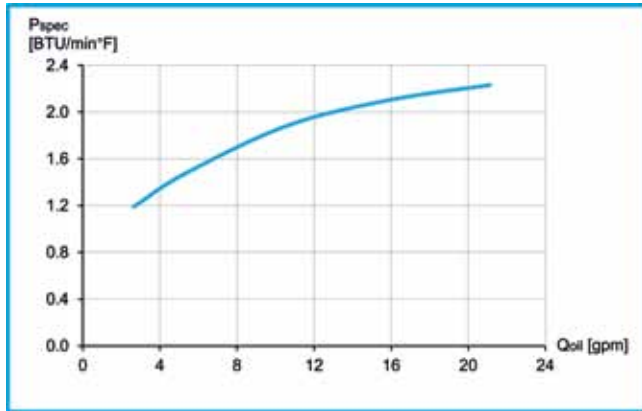


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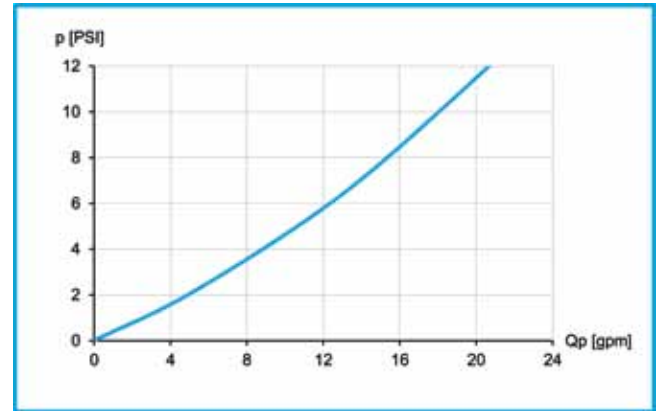
order number	description	motor power	current	protection level	air flow	noise level	weight
		[HP]	[A]		[SCFM]	[dB (A)]	[lbs]
ASA0043UD01	LL 04 12V DC	0.1	5.4	IP 68	282.4	68	8.8
ASA0043UD02	LL 04 24V DC	0.1	2.7	IP 68	282.4	68	8.8

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	370 PSI (static)

Options

temperature control	ILLZTC12-2K or ILLZTC24-2K + ILLZTT5069K (page 36,37)
temperature control reversible	ILLZTCB00 (page 40)
temperature switch	122°F, 140°F or 194°F (page 38)



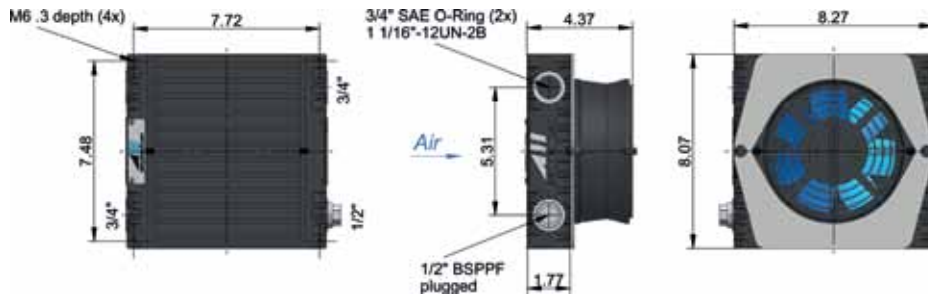
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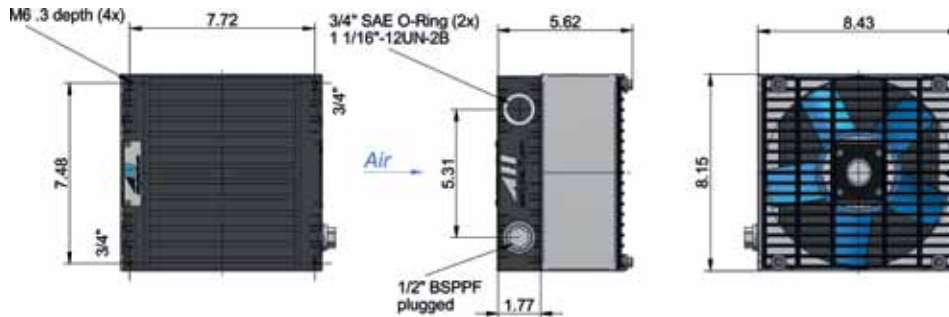
Oil / Air Cooler LL 04 LowLine

115V 60 Hz AC, 230/460V 60 Hz AC

ASA0043UI03:



ASA0043UI04:

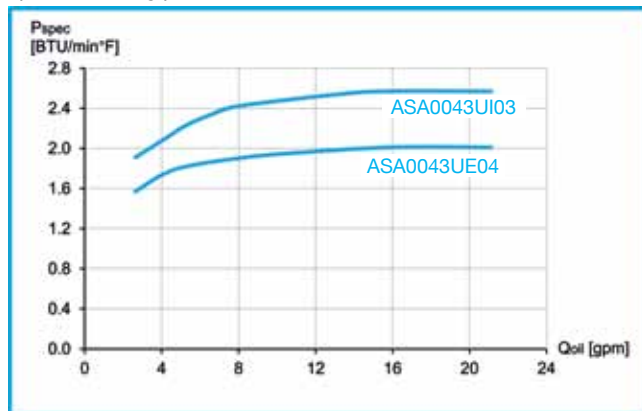


Technical Data

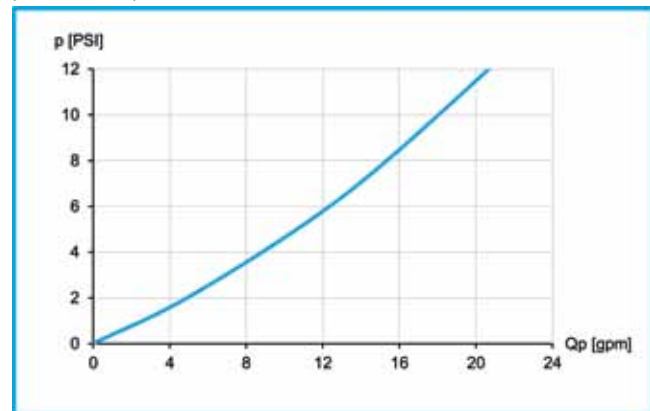
order number	description	motor power [HP]	current [A]	protection level	air flow [SCFM]	noise level [dB (A)]	weight [lbs]
ASA0043UE04	LL 04 115V 60 Hz AC	0.05	0.33	IP 20	158.85	56	9.46
ASA0043UEI03	LL 04 230/460V 60 Hz AC	0.07	0.15	IP 44	264.75	66	12.98

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	370 PSI (static)

Options

temperature switch	122°F, 140°F or 194°F (page 38)
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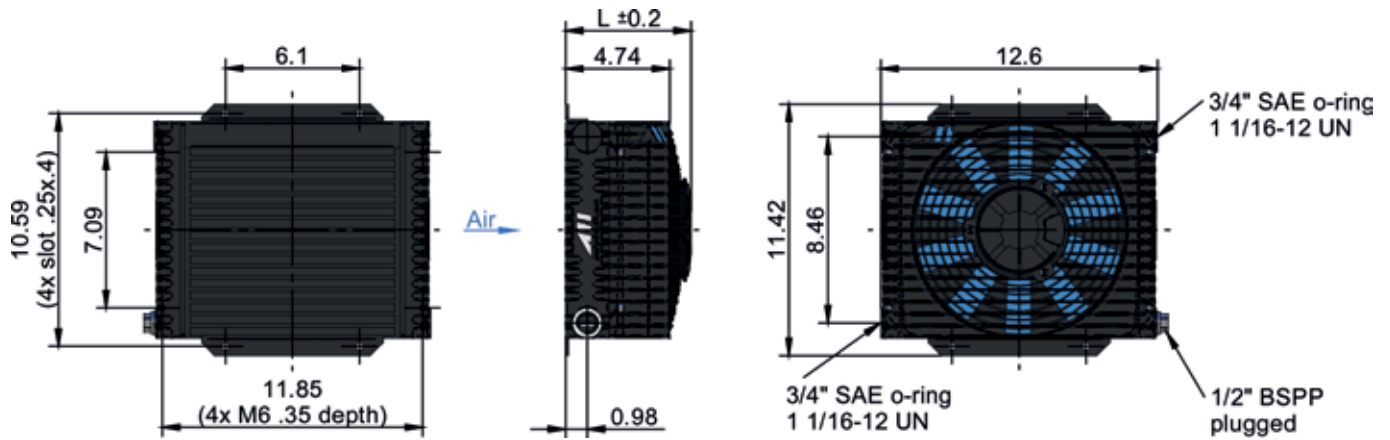
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Oil / Air Cooler LL 06 LowLine

12V / 24V DC

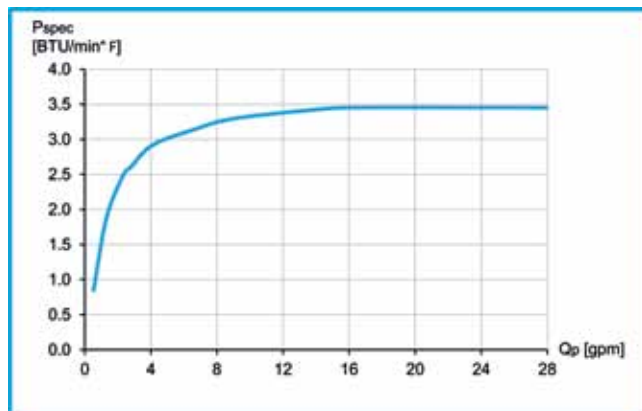


Technical Data

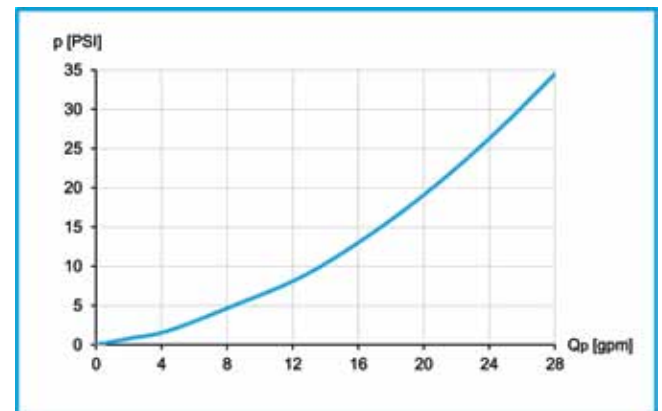
order number	description	motor power	current	protection level	air flow	noise level	L	weight
		[HP]	[A]		[SCFM]	[dB (A)]	[in]	[lbs]
ASATT06UD03	LL 06 12V DC HP	0.13	7.4	IP 68	510	74	6.14	13.3
ASATT06UD04	LL 06 24V DC HP	0.13	3.7	IP 68	510	74	6.14	13.2

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	370 PSI (static)

Options

temperature control	ILLZTC12-2K or ILLZTC24-2K + ILLZTT5069K (page 36,37)
temperature control reversible	ILLZTCB00 (page 40)
temperature switch	122°F, 140°F or 194°F (page 38)
internal 30PSI bypass cooler	ASATT06UD03BP (12V) / ASATT06UD04BP (24V)
foot mounting option	ILLEFUSSTT06K (contact us for more information)
protection housing	ILLEGAK0064GT (contact us for more information)

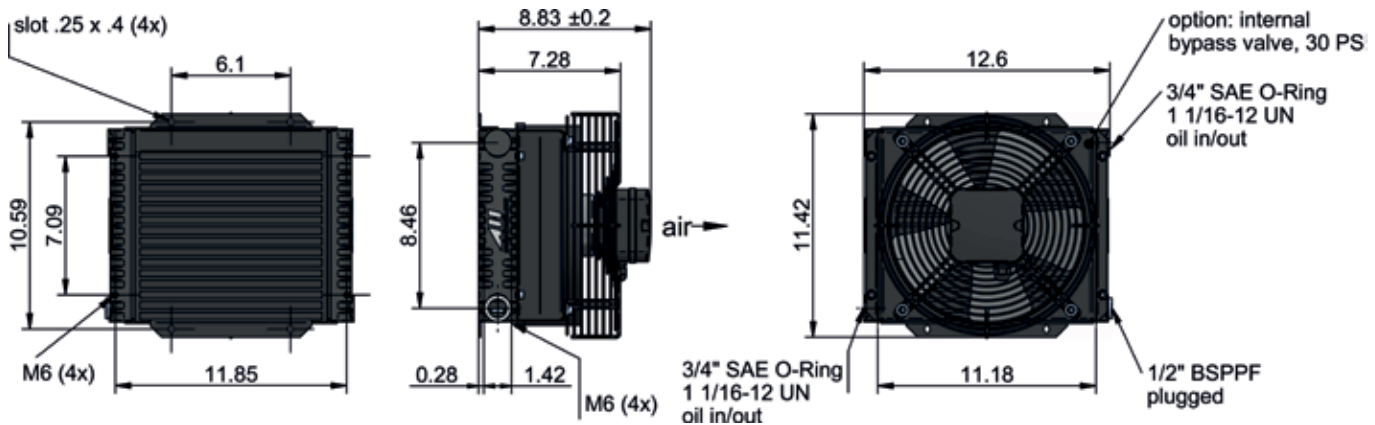


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Oil / Air Cooler LL 06 LowLine

115 V 60 Hz AC compact

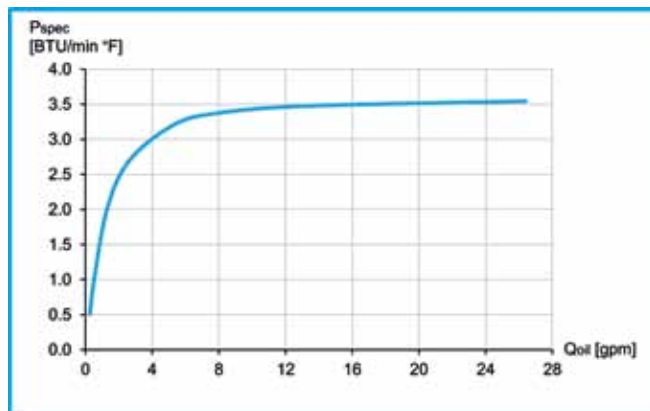


Technical Data

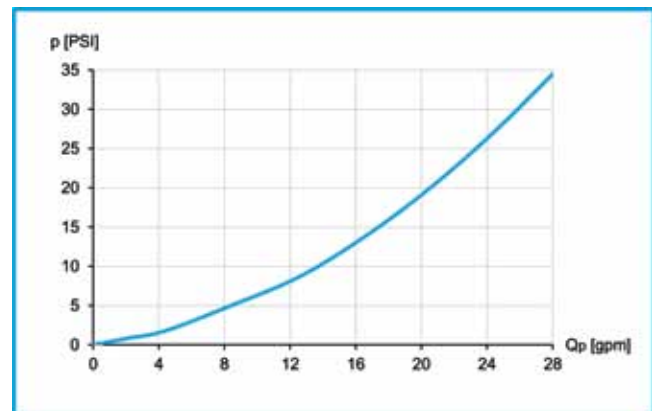
order number	description	motor power	current	protection level	air flow	noise level	weight
		[HP]	[A]		[SCFM]	[dB (A)]	[lbs]
ASATT06UC2U	LL 06 115V AC compact	0.16	1.0	IP 44	494	67	7.4

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	370 PSI (static)

Options

temperature switch	122°F, 140°F or 194°F (page 38)
internal 30PSI bypass cooler	ASATT06UC2EBP
foot mounting option	ILLEFUSSTT06K (contact us for more information)

Please contact us for further options and assistance. Please read manual before installation!

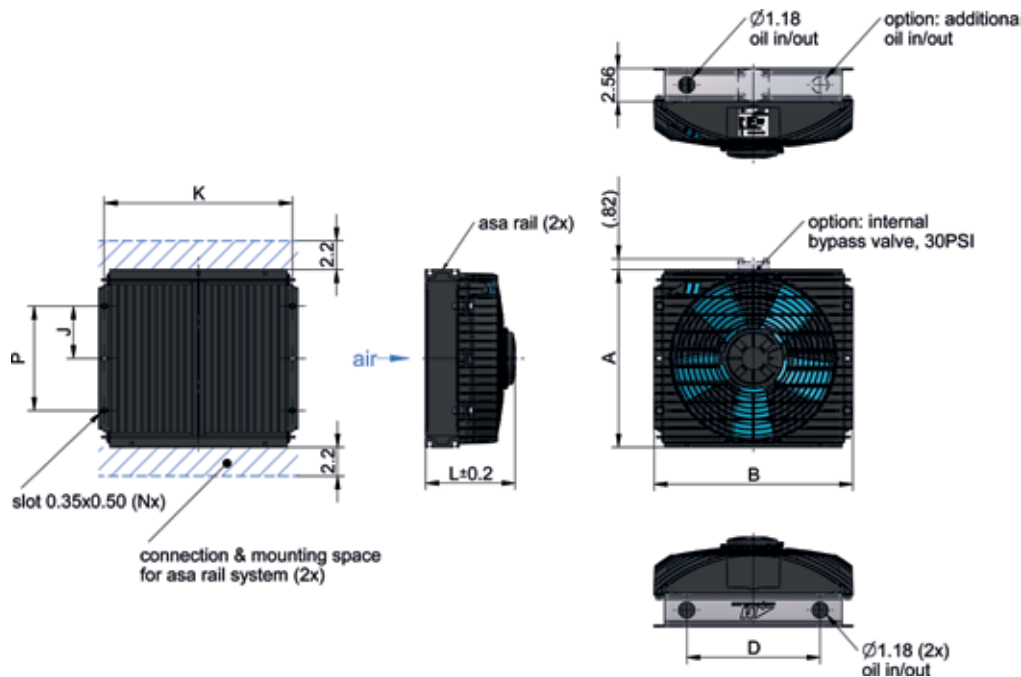


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Oil / Air Cooler TT Series

12V / 24V DC

asa rail



Dimensions

order number	description	A	B	D	J	P	K	L	N	weight
		[in]	[in]	[in]	[in]	[in]	[in]	[in]		[lbs]
ASATT05RD01	TT 05 rail 12V DC	9.25	9.65	4.65	5.91	-	8.86	5.91	4*	8.58
ASATT05RD02	TT 05 rail 24V DC	9.25	9.65	4.65	5.91	-	8.86	5.91	4*	8.58
ASATT07RD01	TT 07 rail 12V DC	11.81	12.60	7.01	3.39	6.77	11.42	6.03	4	14.30
ASATT07RD02	TT 07 rail 24V DC	11.81	12.60	7.01	3.39	6.77	11.42	6.03	4	14.30
ASATT07RD03	TT 07 rail 12V DC h.p.	11.81	12.60	7.01	3.39	6.77	11.42	6.93	4	15.40
ASATT07RD04	TT 07 rail 24V DC h.p.	11.81	12.60	7.01	3.39	6.77	11.42	6.93	4	15.40
ASATT11RD01	TT 11 rail 12V DC	13.39	14.96	10.04	3.94	7.87	14.17	6.89	6	19.14
ASATT11RD02	TT 11 rail 24V DC	13.39	14.96	10.04	3.94	7.87	14.17	6.89	6	19.14
ASATT16RD01	TT 16 rail 12V DC	18.31	18.11	13.11	6.02	12.05	17.17	7.48	6	32.12
ASATT16RD02	TT 16 rail 24V DC	18.31	18.11	13.11	6.02	12.05	17.17	7.48	6	32.12
ASATT25RD01	TT 25 rail 12V DC	23.82	21.85	16.89	8.21	16.42	20.87	10.12	6	47.74
ASATT25RD02	TT 25 rail 24V DC	23.82	21.85	16.89	8.21	16.42	20.87	10.12	6	47.74

* slot holes with 0.28in x 0.39in

Technical Data

order number	description	current	motor power	protection level	air flow	noise level	optional internal bypass (30 PSI)
		[A]	[HP]		[SCFM]	[dB (A)]	cooler order number
ASATT05RD01	TT 05 rail 12V DC	9	0.16	IP 68	335.35	74	-
ASATT05RD02	TT 05 rail 24V DC	4.5	0.16	IP 68	335.35	74	-
ASATT07RD01	TT 07 rail 12V DC	10.4	0.18	IP 68	564.8	74	ASATT07RD01BP
ASATT07RD02	TT 07 rail 24V DC	5.2	0.18	IP 68	564.8	74	ASATT07RD02BP
ASATT07RD03	TT 07 rail 12V DC h.p.	16.2	0.29	IP 68	706.0	78	ASATT07RD03BP
ASATT07RD04	TT 07 rail 24V DC h.p.	8.1	0.29	IP 68	706.0	78	ASATT07RD04BP
ASATT11RD01	TT 11 rail 12V DC	20.8	0.37	IP 68	1094.3	77	ASATT11RD01BP
ASATT11RD02	TT 11 rail 24V DC	10.4	0.37	IP 68	1094.3	77	ASATT11RD02BP
ASATT16RD01	TT 16 rail 12V DC	18.6	0.33	IP 68	1200.2	79	ASATT16RD01BP
ASATT16RD02	TT 16 rail 24V DC	9.3	0.33	IP 68	1200.2	79	ASATT16RD02BP
ASATT25RD01	TT 25 rail 12V DC	18.6	0.33	IP 68	1376.7	77	ASATT25RD01BP
ASATT25RD02	TT 25 rail 24V DC	9.3	0.33	IP 68	1376.7	77	ASATT25RD02BP

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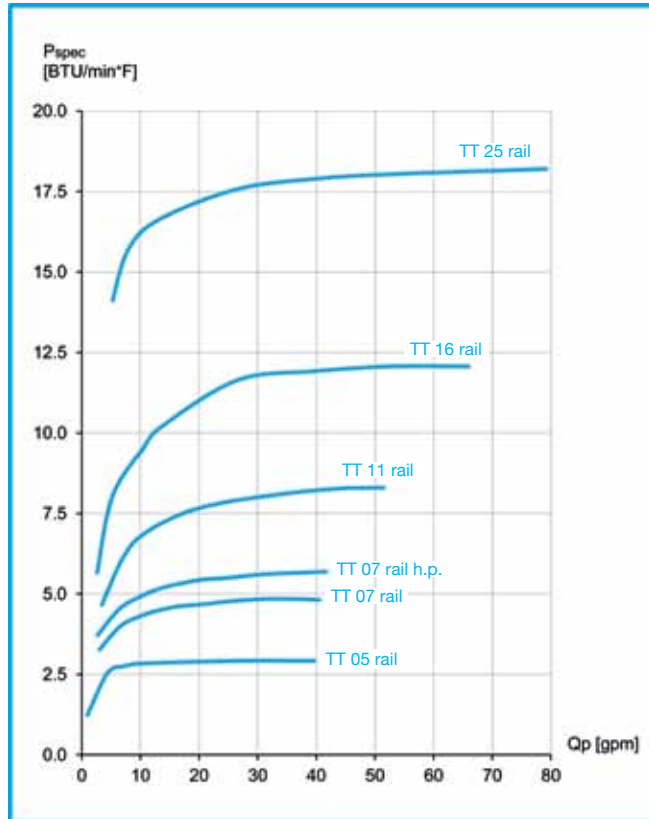
Oil / Air Cooler TT Series

12V / 24V DC

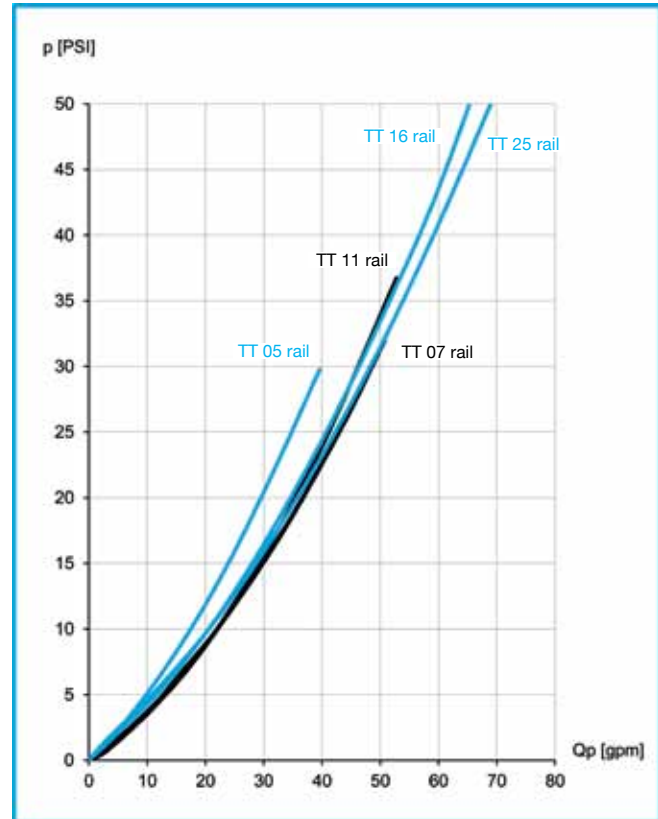
asa rail

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°C to 176°F
air fin shape:	wavy
working pressure:	370 PSI (static)

Options

temperature control	ILLZTC12-2K or ILLZTC24-2K + ILLZTT5069K (page 36,37)
temperature control reversible	ILLZTCB00 (page 40)
temperature switches	122°F, 140°F or 194°F (page 38)
rail mounting bracket	MW3046K (page 34)
foot mounting	ILLEFUSSTTHDK (page 34)
protection housing	see page 40
internal bypass	alternative settings on request

Installation System (more information on page 32)

connection UN 1 5/16"	ILLZSET5U16 (1 set per cooler required)
connection UN 1 5/8"	ILLZSET5U20 (1 set per cooler required)

Please contact us for further options and assistance. Please read manual before installation!

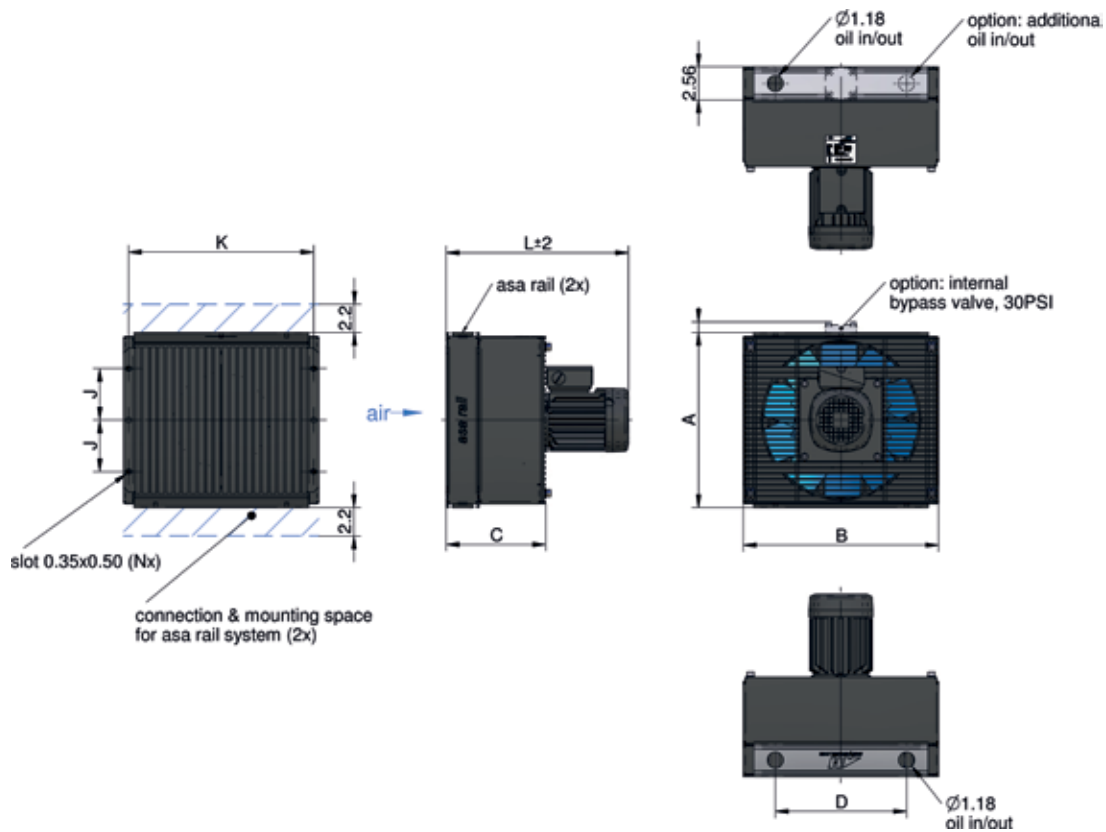


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Oil / Air Cooler TT Series

230/460V, 60Hz AC

asa rail



Dimensions

order number	description	A	B	C	D	J	K	L	N	weight
		[in]	[in]	[in]	[in]	[in]	[in]	[in]		[lbs]
ASATT07RA44	TT 07 rail 0.34HP AC	11.81	12.8	7.6	7.01	3.39	11.42	15.59	4	42.9
ASATT07RA25	TT 07 rail 0.75HP AC	11.81	12.8	7.6	7.01	3.39	11.42	15.59	4	45.1
ASATT11RA44	TT 11 rail 0.34HP AC	13.39	14.96	7.6	10.04	3.94	14.17	15.67	6	45.54
ASATT11RA27	TT 11 rail 1.5HP AC	13.39	14.96	7.6	10.04	3.94	14.17	15.67	6	47.74
ASATT16RA64	TT 16 rail 0.25HP AC	18.31	18.11	8.58	13.11	6.02	17.17	16.3	6	55.00
ASATT16RA45	TT 16 rail 0.5HP AC	18.31	18.11	8.58	13.11	6.02	17.17	16.3	6	55.44
ASATT16RA27	TT 16 rail 1.5HP AC	18.31	18.11	8.58	13.11	6.02	17.17	16.3	6	57.64
ASATT25RA66	TT 25 rail 0.5HP AC	23.82	21.85	8.58	13.89	8.21	20.87	17.68	6	71.5
ASATT25RA46	TT 25 rail 0.75HP AC	23.82	21.85	8.58	13.89	8.21	20.87	17.68	6	71.06

Technical Data

order number	description	current	motor power	protection level	rotation	air flow	noise level	optional internal bypass (30 PSI)
		[A]	[HP]		[rpm]	[SCFM]	[dB (A)]	cooler order number
ASATT07RA44	TT 07 rail 0.34HP AC	0.8	0.34	IP 55	1662	335.4	60	ASATT07RA44BP
ASATT07RA25	TT 07 rail 0.75HP AC	1.4	0.75	IP 55	3378	706.0	78	ASATT07RA25BP
ASATT11RA44	TT 11 rail 0.34HP AC	0.8	0.34	IP 55	1662	600.1	73	ASATT11RA44BP
ASATT11RA27	TT 11 rail 1.5HP AC	1.5	1.5	IP 55	3378	1200.2	83	ASATT11RA27BP
ASATT16RA64	TT 16 rail 0.25HP AC	0.9	0.25	IP 55	1104	741.3	62	ASATT16RA64BP
ASATT16RA45	TT 16 rail 0.5HP AC	0.8	0.5	IP 55	1662	1023.7	74	ASATT16RA45BP
ASATT16RA27	TT 16 rail 1.5HP AC	1.4	1.5	IP 55	3378	1517.9	91	ASATT16RA27BP
ASATT25RA66	TT 25 rail 0.5HP AC	1.2	0.5	IP 55	1098	1644.0	75	ASATT25RA66BP
ASATT25RA46	TT 25 rail 0.75HP AC	1.6	0.75	IP 55	1680	2520.0	86	ASATT25RA46BP

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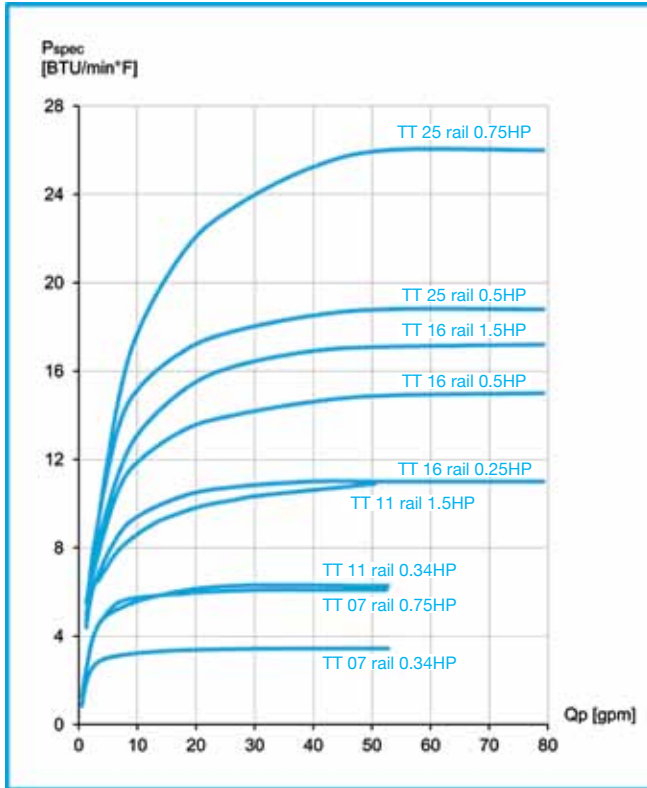
Oil / Air Cooler TT Series

230/460V, 60Hz AC

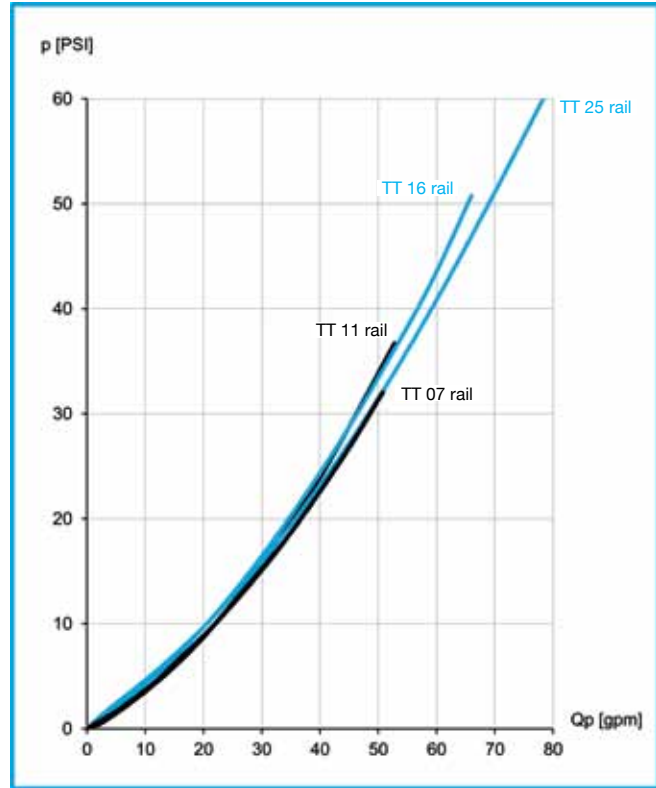
asa rail

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°C to 176°F
air fin shape:	wavy
working pressure:	370 PSI (static)

Options

motor data	alternative voltages, frequencies, IP classes, etc on request
temperature switches	122°F, 140°F (page 38)
temperature control AC	ILLZTCACK (page 39)
mounting bracket	MW3046K (page 34)
foot mounting options	ILLEFUSSTTK, ILLEFUSSTTHDK (page 34)
internal bypass	alternative settings on request

Installation System (more information on page 32)

asa rail

connection UN 1 5/16"	ILLZSET5U16 (1 set per cooler required)
connection UN 1 5/8"	ILLZSET5U20 (1 set per cooler required)

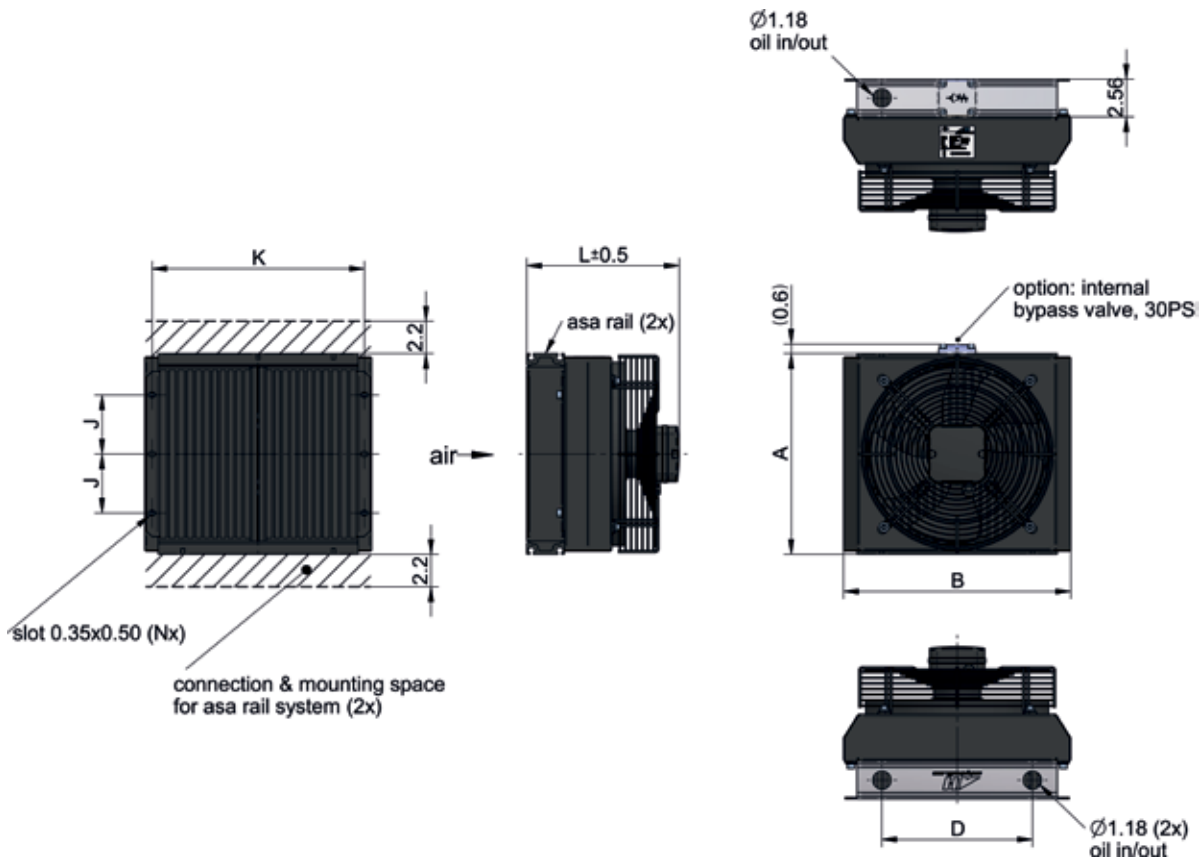
Please contact us for further options and assistance. Please read manual before installation!



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Oil / Air Cooler TT Series COMPACT

115V, 60Hz AC



Dimensions

order number	description	A	B	D	J	K	L	N	weight
		[in]	[in]	[in]	[in]	[in]	[in]		[lbs]
ASATT07RC2U	TT 07 rail 115V/60Hz/2-pole compact	11.81	12.80	7.01	3.39	11.42	10.24	4	19.84
ASATT11RC4U	TT 11 rail 115V/60Hz/4-pole compact	13.39	15.16	10.04	3.94	14.17	10.24	6	26.01
ASATT16RC4U	TT 16 rail 115V/60Hz/4-pole compact	18.31	18.31	13.11	6.02	17.17	11.22	6	43.21

Technical Data

order number	description	current	motor power	protection level	rotation	air flow	noise level	optional internal bypass (30PSI)
		[A]	[HP]		[rpm]	[SCFM]	[dB (A)]	cooler order number
ASATT07RC2U	TT 07 rail 115V/60Hz/2-pole compact	1.0	0.16	IP 44	2650	473	67	ASATT07RC2UBP
ASATT11RC4U	TT 11 rail 115V/60Hz/4-pole compact	0.92	0.15	IP 44	1750	635	65	ASATT11RC4UBP
ASATT16RC4U	TT 16 rail 115V/60Hz/4-pole compact	2.20	0.35	IP 54	1500	1180	66	ASATT16RC4UBP

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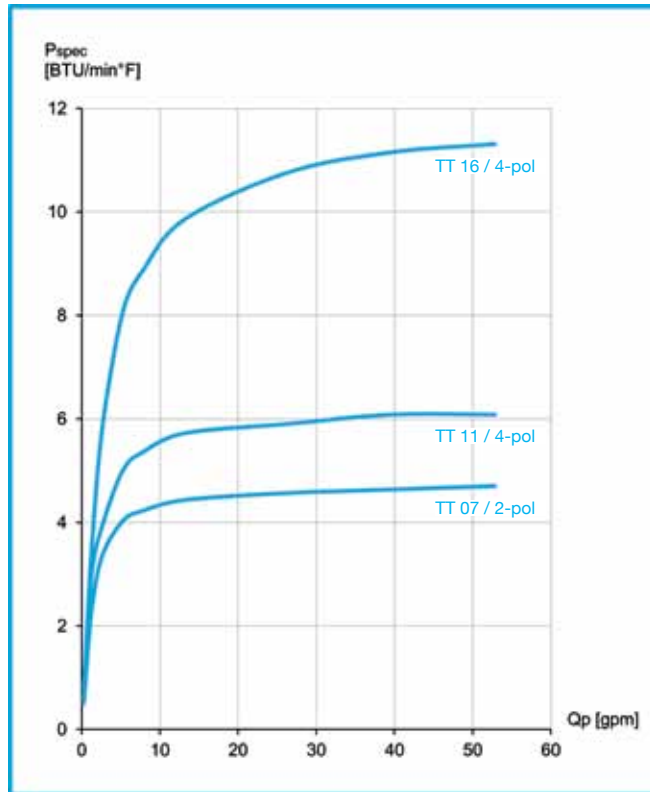
Oil / Air Cooler TT Series COMPACT

115V, 60Hz AC

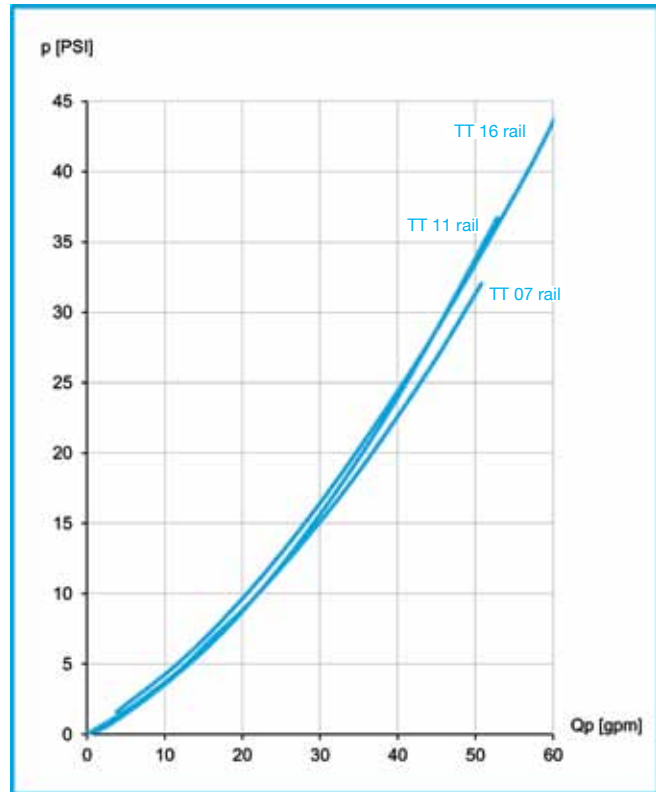
asa rail

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 176°F
air fin shape:	wavy
working pressure:	370 PSI (static)

Options

230 V, 50 Hz	on request
temperature switch	122°F, 140°F (page 38)
temperature control AC	ILLZTCAK (page 39)
mounting bracket	MW3046K (page 34)
foot mounting options	ILLEFUSSTTK, ILLEFUSSTTHDK (page 34)
internal bypass	alternative settings on request

Installation System (more information on page 32)

asa rail

connection UN 1 5/16"	ILLZSET5U16 (1 set per cooler required)
connection UN 1 5/8"	ILLZSET5U20 (1 set per cooler required)

Please contact us for further options and assistance. Please read manual before installation!

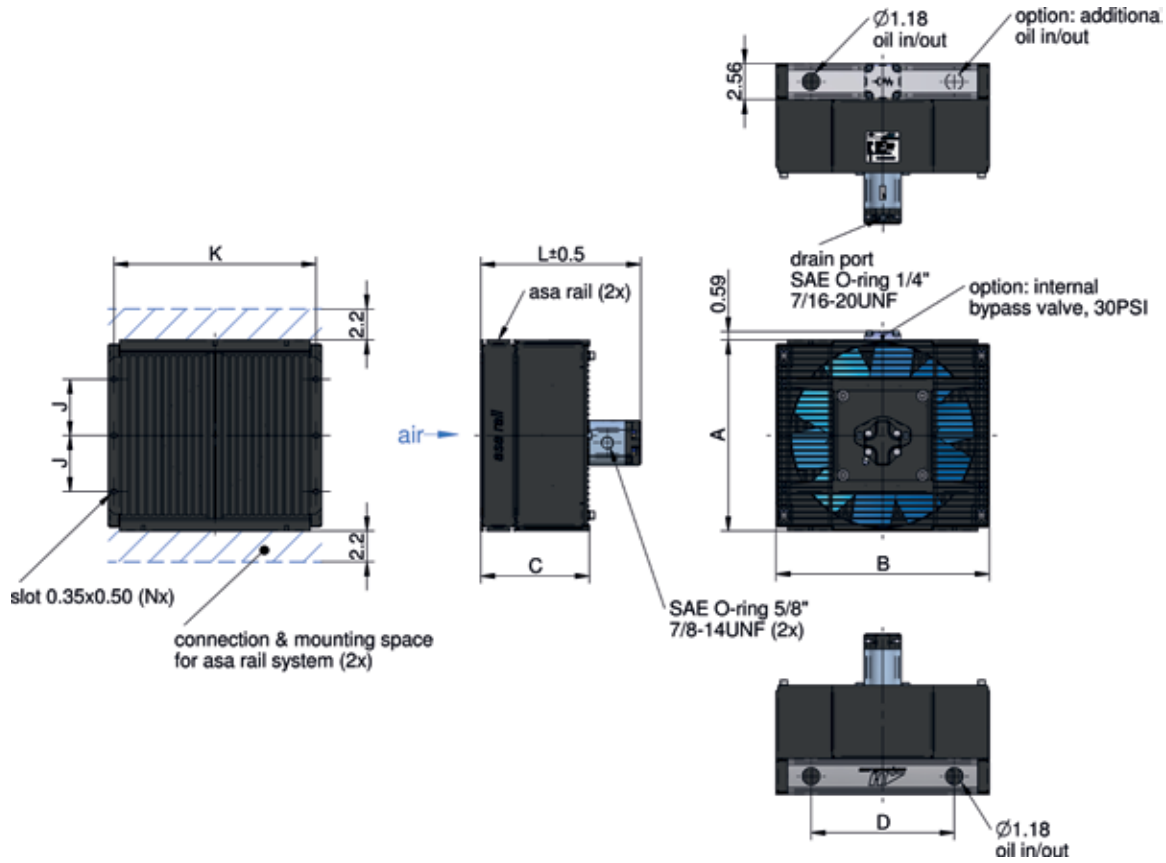


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Oil / Air Cooler TT Series

0.73 in³ hydraulic drive

asa rail



Dimensions

order number	description	A	B	C	D	J	K	L	N	weight
		[in]	[in]	[in]	[in]	[in]	[in]	[in]		[lbs]
ASATT11RH12	TT 11 rail 0.73 in ³ hydraulic drive	13.39	14.96	7.6	10.04	3.94	14.17	10.91	6	36.74
ASATT16RH12	TT 16 rail 0.73 in ³ hydraulic drive	18.31	18.11	8.58	13.11	6.02	17.17	11.89	6	46.64
ASATT25RH12	TT 25 rail 0.73 in ³ hydraulic drive	23.82	21.85	8.58	16.89	8.21	20.87	11.89	6	61.16

Technical Data

order number	description	motor power	oil pressure	oil flow	rotation	air flow	noise level	optional internal bypass (30 PSI)
		[HP]	[PSI]	[gpm]	[rpm]	[SCFM]	[dB (A)]	cooler order number
ASATT11RH12	TT 11 rail 0.73 in ³ hydraulic drive	0.03	14.5	3.17	1000	370.65	66	ASATT11RH12BP
		0.26	87.02	6.07	2000	706.0	82	
		0.88	174.05	9.24	3000	1323.75	90	
ASATT16RH12	TT 16 rail 0.73 in ³ hydraulic drive	0.11	61	3.3	1000	776.6	61	ASATT16RH12BP
		0.89	257	6.7	2000	1341.4	79	
		2.99	578	10	3000	1800.3	91	
ASATT25RH12	TT 25 rail 0.73 in ³ hydraulic drive	0.2	115	3.3	1000	1341.4	72	ASATT25RH12BP
		1.58	457	6.7	2000	2665.15	90	
		5.31	1026	10	3000	3918.3	101	

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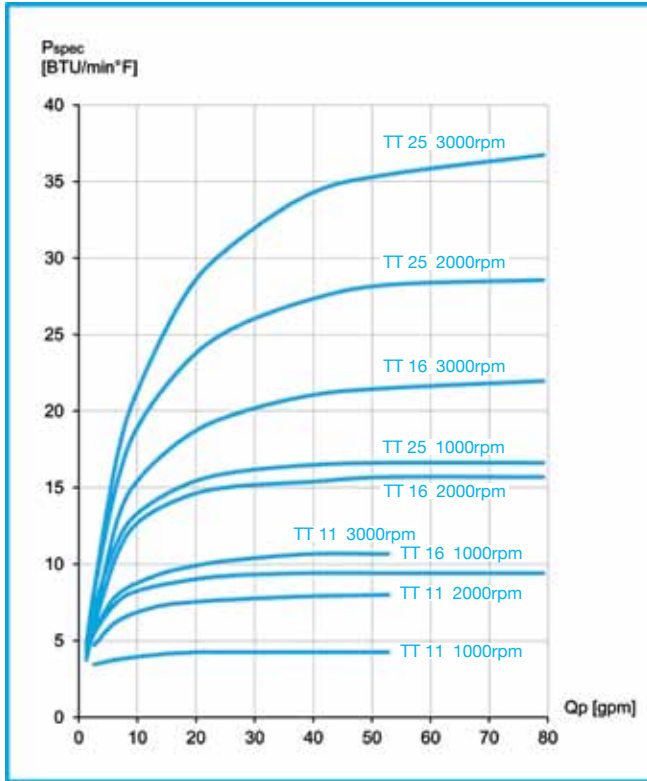
Oil / Air Cooler TT Series

0.73 in³ hydraulic drive

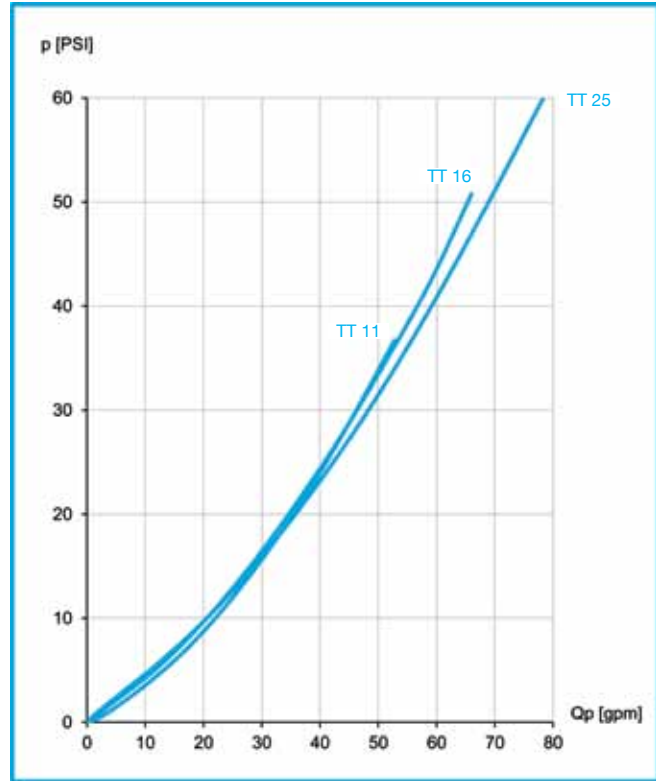
asa rail

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 176°F
air fin shape:	wavy
working pressure:	370 PSI (static)

Options

hydraulic motor	alternative displacements on request
temperature switch	122°F, 140°F or 194°F (page 38)
mounting bracket	MW3046K (page 34)
foot mounting options	ILLEFUSSTTK, ILLEFUSSTTHDK (page 34)
internal bypass	alternative settings on request

Installation System (more information on page 32)

asa rail

connection UNF 1 5/16"	ILLZSET5U16 (1 set per cooler required)
connection UN 1 5/8"	ILLZSET5U20 (1 set per cooler required)

Please contact us for further options and assistance. Please read manual before installation!

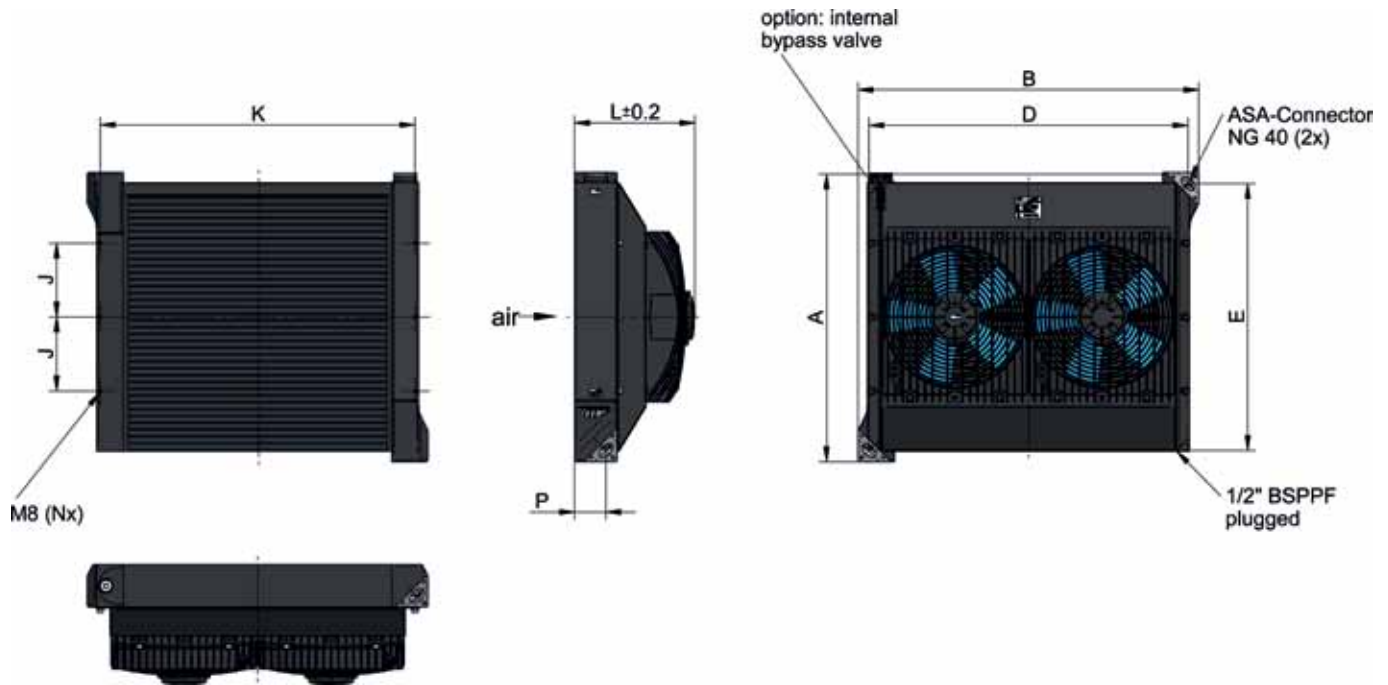


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Oil / Air Cooler ASA Series

12V / 24V DC

asa uc



Dimensions

order number	description	A	B	D	J	K	L	N	P	weight
		[in]	[in]	[in]	[in]	[in]	[in]		[in]	[lbs]
ASA0177AD01	ASA 0177 12V DC	18.50	23.23	21.06	6.02	20.08	8.98	4	2.68	52.1
ASA0177AD02	ASA 0177 24V DC	18.50	23.23	21.06	6.02	20.08	8.98	4	2.68	52.1
ASA0257AD03	ASA 0257 12V DC h.p.	21.85	27.17	25	8.21	20.87	10.20	6	2.68	84.7
ASA0257AD04	ASA 0257 24V DC h.p.	21.85	27.17	25	8.21	20.87	10.20	6	2.68	84.7
ASA0367AD01	ASA 0367 12V DC	25.59	30.31	28.15	6.50	27.32	10.67	6	2.68	112.2
ASA0367AD02	ASA 0367 24V DC	25.59	30.31	28.15	6.50	27.32	10.67	6	2.68	112.2

Technical Data

order number	description	current	motor power	protection level	air flow	noise level	optional internal bypass (30PSI)
		[A]	[HP]		[SCFM]	[dB (A)]	cooler order number
ASA0177AD01	ASA 0177 12V DC	18.6*	0.33	IP 68	1090	79	ASA0177AD01BP
ASA0177AD02	ASA 0177 24V DC	9.3*	0.33	IP 68	1090	79	ASA0177AD02BP
ASA0257AD03	ASA 0257 12V DC h.p.	2x20.8	2x0,73	IP 68	2120	83	ASA0257AD03BP
ASA0257AD04	ASA 0257 24V DC h.p.	2x10.4	2x0,73	IP 68	2120	83	ASA0257AD04BP
ASA0367AD01	ASA 0367 12V DC	2x20.8	2x0,73	IP 68	2029.8	84	ASA0367AD01BP
ASA0367AD02	ASA 0367 24V DC	2x10.4	2x0,73	IP 68	2029.8	84	ASA0367AD02BP

*... single fan

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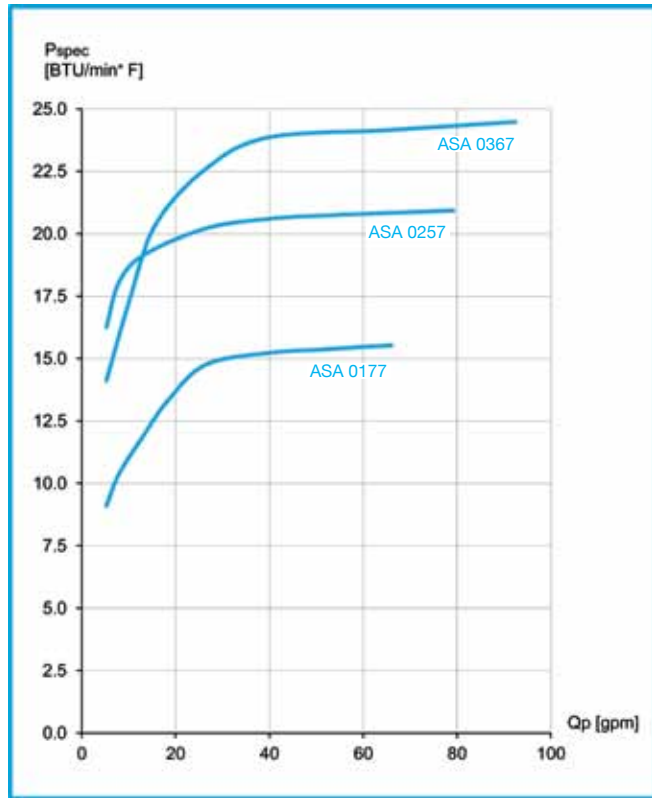
Oil / Air Cooler ASA Series

12V / 24V DC

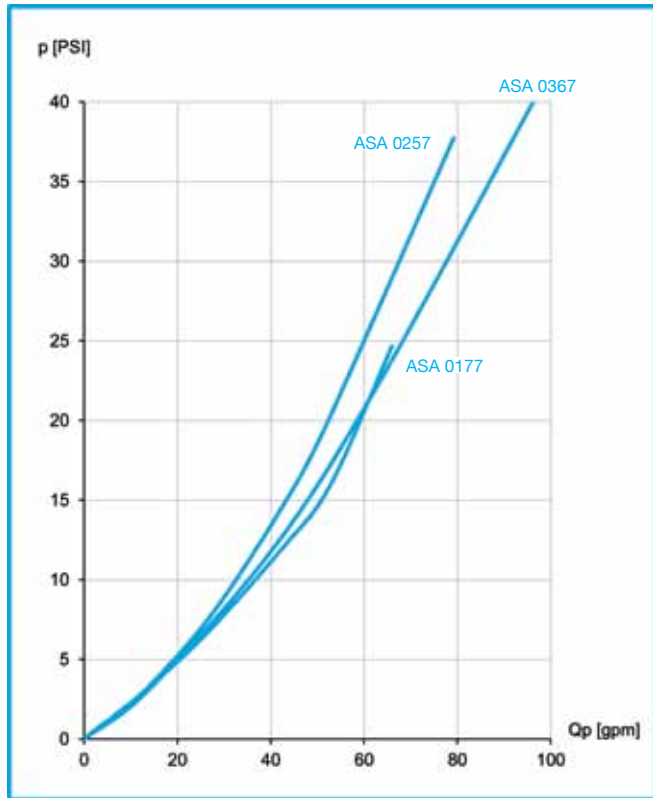
asa uc

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	370 PSI (static)

Options

temperature control	ILLZTC12-2K or ILLZTC24-2K + ILLZTT5069K (page 36,37)*
temperature control reversible	ILLZTCB00 (page 40)
temperature switch	122°F, 140°F or 194°F (page 38)
internal bypass	alternative settings on request

Installation System (more information on page 33)

asa uc

connection NG32-UN 1 5/8"	ILLZASA32U20 (2pcs per cooler required)
connection NG40-UN 1 7/8"	ILLZASA40U24 (2pcs per cooler required)

Please contact us for further options and assistance. Please read manual before installation!

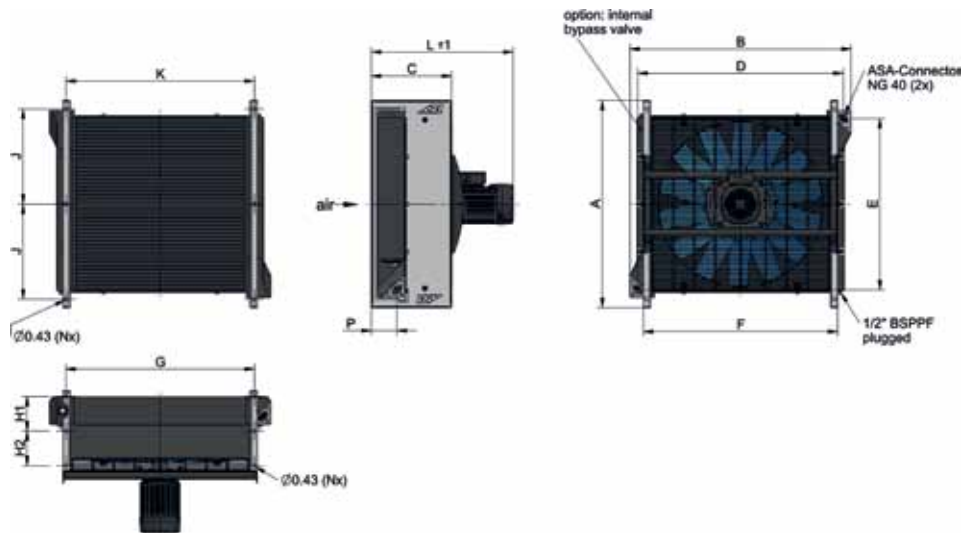


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Oil / Air Cooler ASA Series

230/460V 60Hz AC

asa uc



Dimensions

order number	description	A	B	C	D	E	F	G	H1	H2	J	K	N	L	P	weight
		[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]		[in]	[in]	[lbs]
ASA0177AA64	ASA 0177 0.25HP AC	20.87	22.91	10.24	21.02	16.22	18.19	17.40	4.72	3.54	19.29	17.40	4	18.7	3.50	82.5
ASA0177AA45	ASA 0177 0.5HP AC	20.87	22.91	10.24	21.02	16.22	18.19	17.40	4.72	3.54	19.29	17.40	4	18.7	3.50	84.5
ASA0257AA66	ASA 0257 0.5HP AC	25.00	26.85	10.63	24.96	19.72	22.13	21.34	4.33	4.33	11.02	21.34	6	20.4	3.66	109.8
ASA0257AA46	ASA 0257 0.75HP AC	25.00	26.85	10.63	24.96	19.72	22.13	21.34	4.33	4.33	11.02	21.34	6	20.4	3.66	108.8
ASA0367AA66	ASA 0367 0.5HP AC	28.35	30.31	11.02	28.35	23.46	26.61	25.83	4.72	4.72	12.99	25.83	6	20.8	3.54	128.9
ASA0367AA46	ASA 0367 0.75HP AC	28.35	30.31	11.02	28.35	23.46	26.61	25.83	4.72	4.72	12.99	25.83	6	20.8	3.54	128.2
ASA0367AA48	ASA 0367 1.5HP AC	28.35	30.31	11.02	28.35	23.46	26.61	25.83	4.72	4.72	12.99	25.83	6	22.0	3.54	146.9
ASA0467AA66	ASA 0467 0.5HP AC	30.91	32.95	11.42	31.06	28.61	29.84	29.06	4.92	4.92	14.76	29.06	10	21.4	3.70	170.2
ASA0467AA48	ASA 0467 1.5HP AC	30.91	32.95	11.42	31.06	28.61	29.84	29.06	4.92	4.92	14.76	29.06	10	22.6	3.70	189.7
ASA0467AA4B	ASA 0467 4HP AC	30.91	32.95	11.42	31.06	28.61	29.84	29.06	4.92	4.92	14.76	29.06	10	24.5	3.70	236.3
ASA0567AA66	ASA 0567 0.5HP AC	33.86	36.22	11.42	34.25	29.37	32.52	31.73	4.92	4.92	15.75	31.73	10	21.1	3.62	166.7
ASA0567AA48	ASA 0567 1.5HP AC	33.86	36.22	11.42	34.25	29.37	32.52	31.73	4.92	4.92	15.75	31.73	10	22.3	3.62	186.2
ASA0567AA4B	ASA 0567 4HP AC	33.86	36.22	11.42	34.25	29.37	32.52	31.73	4.92	4.92	15.75	31.73	10	24.3	3.62	231.3
ASA0927AA6C	ASA 0927 3HP AC	43.31	45.87	12.60	44.09	36.26	41.65	40.59	5.12	5.12	19.86	40.59	10	26.2	3.43	367.4
ASA0927AA6F	ASA 0927 7.5HP AC	43.31	45.87	12.60	44.09	36.26	41.65	40.59	5.12	5.12	19.86	40.59	10	30.0	3.43	456.0

Technical Data

order number	description	current	motor power	protection level	rotation	air flow	noise level	optional internal bypass (30PSI)
		[A]	[HP]		[rpm]	[SCFM]	[dB (A)]	cooler order number
ASA0177AA64	ASA 0177 0.25HP AC	0.58	0.25	IP 55	1120	815	67	ASA0177AA64BP
ASA0177AA45	ASA 0177 0.5HP AC	0.9	0.5	IP 55	1695	1150	78	ASA0177AA45BP
ASA0257AA66	ASA 0257 0.5HP AC	0.95	0.5	IP 55	1130	1660	73	ASA0257AA66BP
ASA0257AA46	ASA 0257 0.75HP AC	1.25	0.75	IP 55	1690	2500	84	ASA0257AA46BP
ASA0367AA66	ASA 0367 0.5HP AC	0.95	0.5	IP 55	1130	1659.1	76	ASA0367AA66BP
ASA0367AA46	ASA 0367 0.75HP AC	1.25	0.75	IP 55	1690	2118	82	ASA0367AA46BP
ASA0367AA48	ASA 0367 1.5HP AC	2.3	1.5	IP 55	1740	2884	86	ASA0367AA48BP
ASA0467AA66	ASA 0467 0.5HP AC	0.95	0.5	IP 55	1130	2670	80	ASA0467AA66BP
ASA0467AA48	ASA 0467 1.5HP AC	2.3	1.5	IP 55	1740	4070	88	ASA0467AA48BP
ASA0467AA4B	ASA 0467 4HP AC	5.2	4	IP 55	1740	5360	93	ASA0467AA4BBP
ASA0567AA66	ASA 0567 0.5HP AC	0.95	0.5	IP 55	1130	2590	80	ASA0567AA66BP
ASA0567AA48	ASA 0567 1.5HP AC	2.3	1.5	IP 55	1740	3816	88	ASA0567AA48BP
ASA0567AA4B	ASA 0567 4HP AC	5.2	4	IP 55	1740	5681	93	ASA0567AA4BBP
ASA0927AA6C	ASA 0927 3HP AC	4.8	3	IP 55	1200	9440	91	-
ASA0927AA6F	ASA 0927 7.5HP AC	11	7.5	IP 55	1175	13690	84	-

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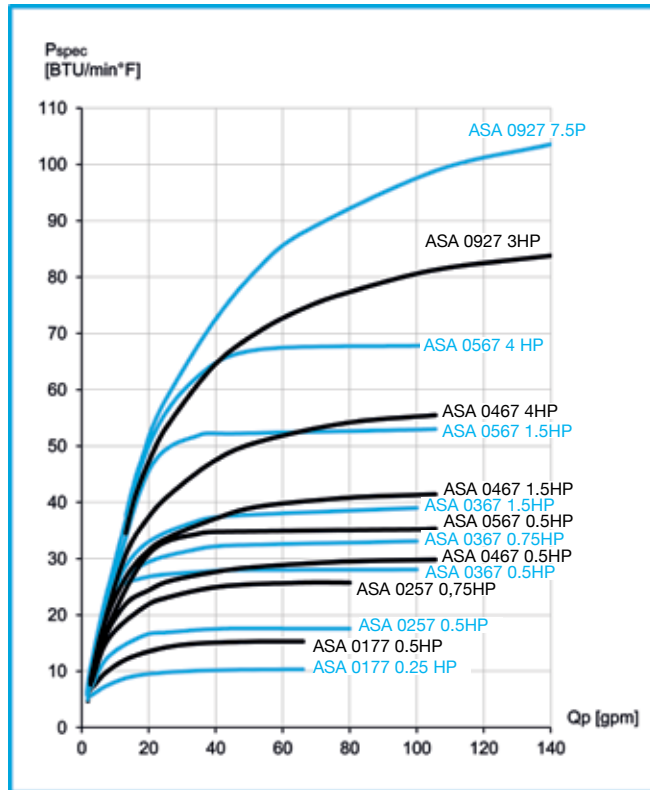
Oil / Air Cooler ASA Series

230/460V 60Hz AC

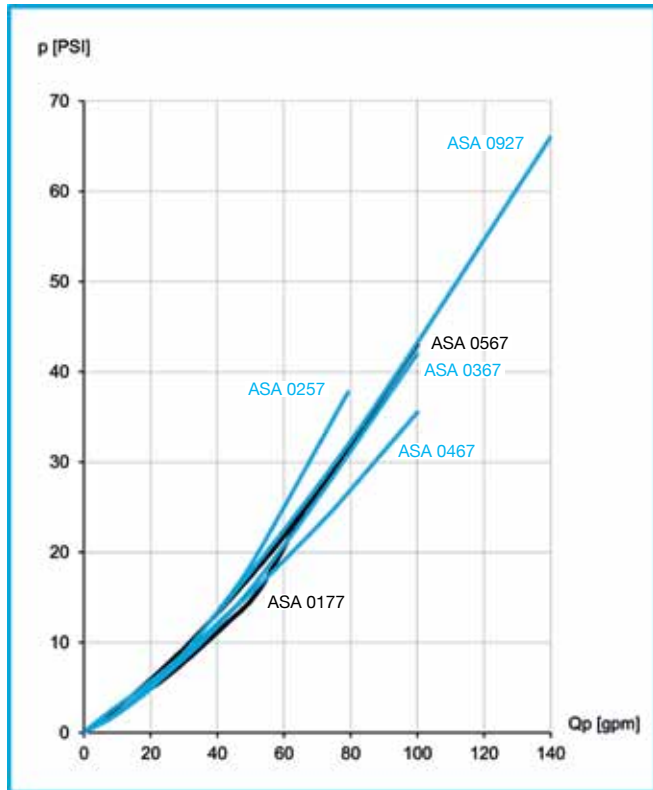
asa uc

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	370 PSI (static)

Options

motor data	alternative voltages, frequencies, IP classes, etc on request
temperature switch	122°F, 140°F or 194°F (page 38)
tread plate & radiator guard	see page 35
internal bypass	alternative settings on request! not available for ASA 0927!

Installation System (more information on page 33)

asa uc

connection NG 32-UN 1 5/8"	ILLZASA32U20 (2pcs per cooler required)
connection NG 40-UN 1 7/8"	ILLZASA40U24 (2pcs per cooler required)

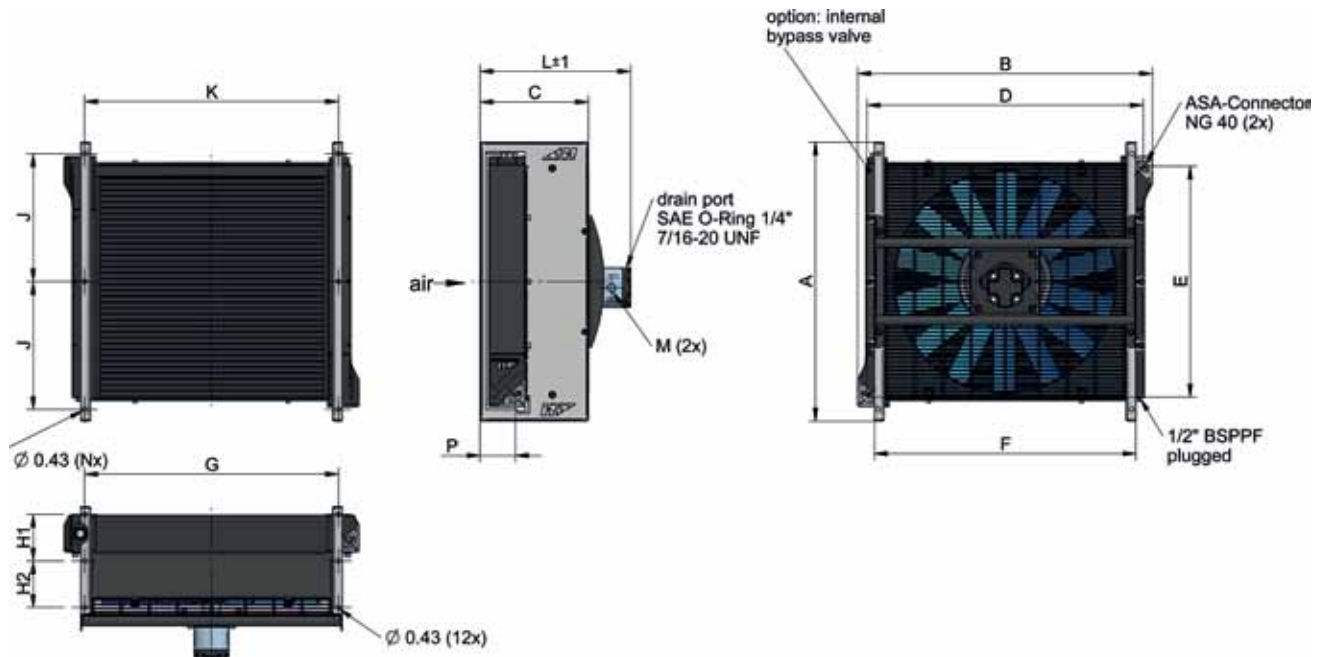
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Oil / Air Cooler ASA Series

with 0.73 or 0.67 in³ hydraulic drive



Dimensions

order number	description	A	B	C	D	E	F	G	H1	H2	J	K	N	L	P	weight
		[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[lbs]
ASA0177AH12	ASA 0177 hyd. motor 0.73in ³	20.87	22.91	10.24	21.02	16.22	18.19	17.40	4.72	3.54	19.29	17.40	4	14.33	3.50	82
ASA0257AH12	ASA 0257 hyd. motor 0.73in ³	25.00	26.85	10.63	24.96	19.72	22.13	21.34	4.33	4.33	11.02	21.34	6	14.57	3.66	110
ASA0367AH11B00	ASA 0367 hyd. motor 0.67in ³	28.35	30.31	11.02	28.35	23.46	26.61	25.83	4.72	4.72	12.99	25.83	6	16.93	3.54	121.9
ASA0467AH11B00	ASA 0467 hyd. motor 0.67in ³	31.91	32.95	11.42	31.06	28.61	29.84	29.06	4.92	4.92	14.76	29.06	10	21.40	3.70	160.9
ASA0567AH11B00	ASA 0567 hyd. motor 0.67in ³	33.86	36.22	11.42	34.25	29.37	32.52	31.73	4.92	4.92	15.75	31.73	10	18.11	3.62	158.2
ASA0927AH11B00	ASA 0927 hyd. motor 0.67in ³	43.31	45.87	12.60	44.09	36.26	41.65	40.59	5.12	5.12	19.86	40.59	10	18.70	3.43	264

Technical Data

order number	description	motor power	oil pressure	oil flow	rotation	air flow	noise level	optional internal bypass (30PSI)
		[HP]	[PSI]	[gpm]	[rpm]	[SCFM]	[dB (A)]	cooler order number
ASA0177AH12	ASA 0177 hyd. motor 0.73in ³	0.08	44	3.3	1000	740	61	ASA0177AH12BP
		0.69	220	6.7	2000	1280	79	
		2.04	420	10	3000	1710	91	
ASA0257AH12	ASA 0257 hyd. motor 0.73in ³	0.16	101	3.3	1000	1430	73	ASA0257AH12BP
		1.29	390	6.7	2000	2880	80	
		4.35	880	9.24	3000	4300	89	
ASA0367AH11B00	ASA 0367 hyd. motor 0.67in ³	0.27	169	3.1	1000	1659	73	ASA0367AH11BPB01
		0.92	384	4.6	1500	2700.5	85	
		2.18	700	6.1	2000	3883	90	
ASA0467AH11B00	ASA 0467 hyd. motor 0.67in ³	0.32	201	3.1	1000	2225	77	ASA0467AH11BPB00
		1.06	440	4.6	1500	3370	87	
		2.53	800	6.1	2000	4470	90	
ASA0567AH11B00	ASA 0567 hyd. motor 0.67in ³	0.31	195	3.1	1000	2136	77	ASA0567AH11BPB00
		1.06	440	4.6	1500	3336	87	
		2.53	787	6.1	2000	5119	90	
ASA0927AH11B00	ASA 0927 hyd. motor 0.67in ³	1.5	931	3.1	1000	8825	88	-
		3.54	1693	4	1300	11473	92	
		6.39	2500	4.9	1600	14032	97	

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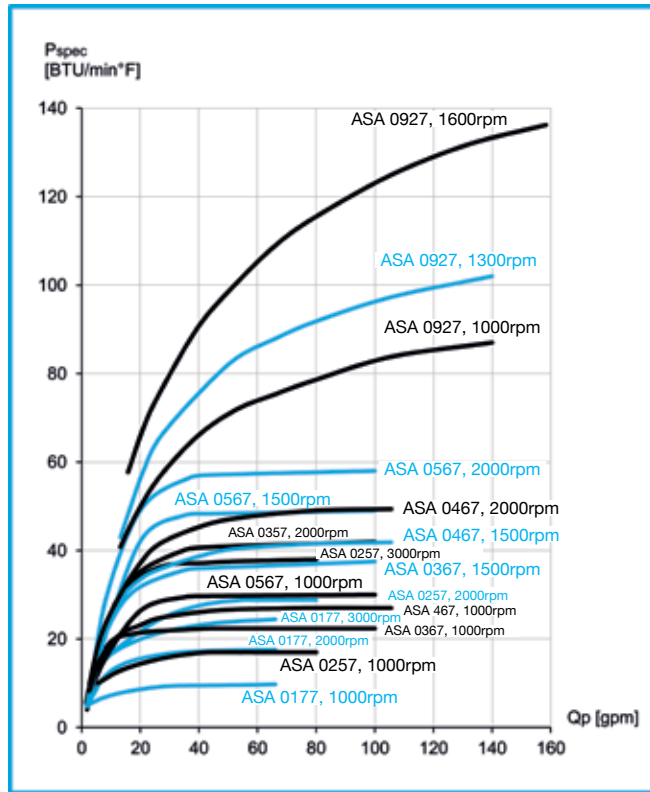
Oil / Air Cooler ASA Series

with 0.73 or 0.67 in³ hydraulic drive

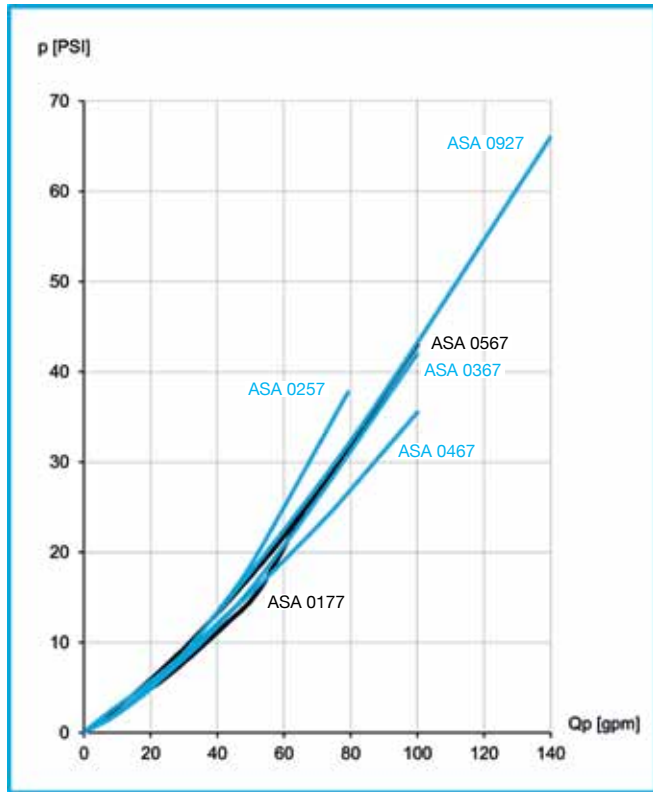
asa uc

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	370 PSI (static)

Options

hydraulic motor	alternative displacements on request
temperature switch	122°F, 140°F or 194°F (page 38)
tread plate & radiator guard	see page 35
internal bypass	alternative settings on request ! not available for ASA 0927!

Installation System (more information on page 33)

asa uc

connection NG 32-UN 1 5/8"	ILLZASA32U20 (2pcs per cooler required)
connection NG 40-UN 1 7/8"	ILLZASA40U24 (2pcs per cooler required)

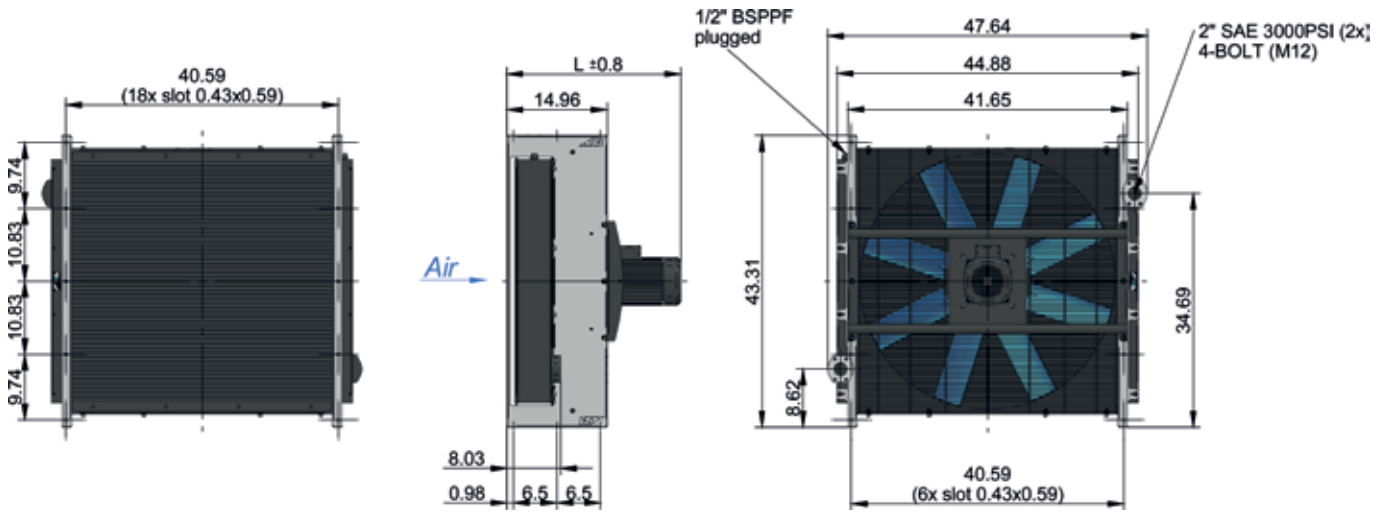
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Oil / Air Cooler HL 0929 HighLine

230/460V 60Hz AC

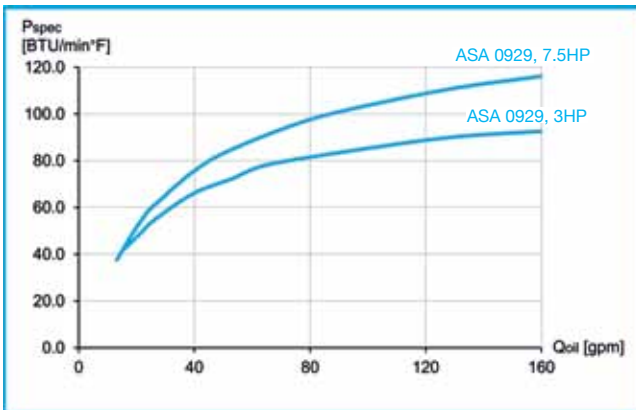


Technical Data

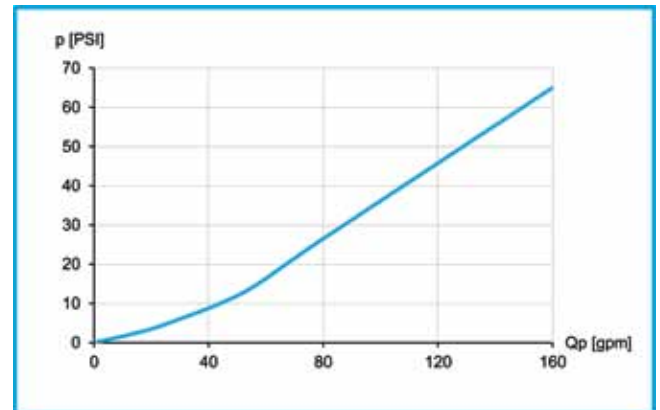
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		[A]	[HP]		[rpm]	[SCFM]	[dB (A)]	[lbs]
ASA0929SA6C	ASA 0929 3HP AC	4.8	3	IP 55	1200	8500	91	384.1
ASA0929SA6F	ASA 0929 7.5HP AC	11	7.5	IP 55	1175	11450	94	468.2

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	230 PSI (static)

Options

motor data	alternative voltages, frequencies, IP classes, etc on request
temperature switch	122°F, 140°F or 194°F (page 38)

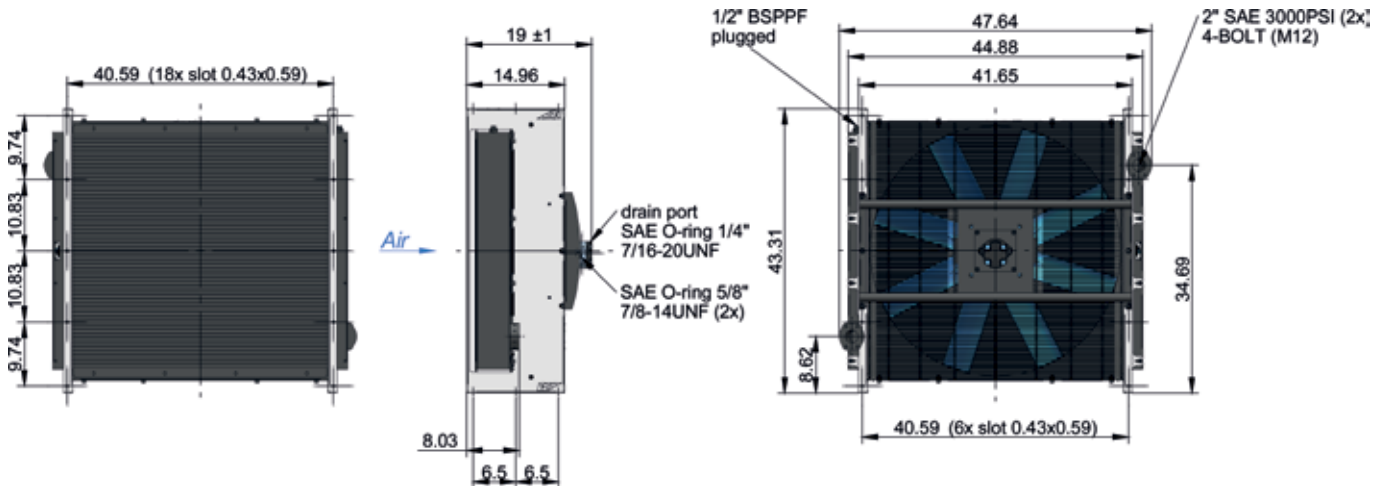


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Oil / Air Cooler HL 0929 HighLine

with 0.67 in³ hydraulic drive

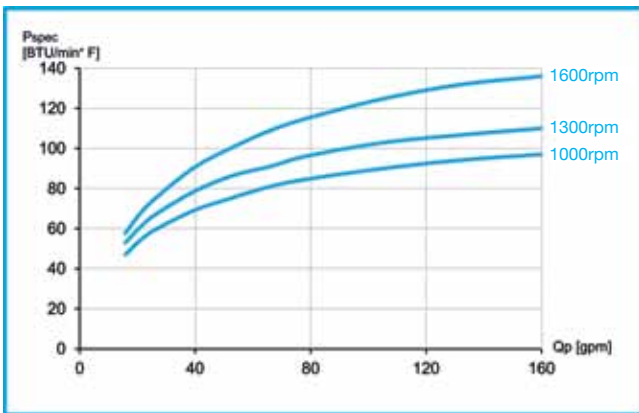


Technical Data

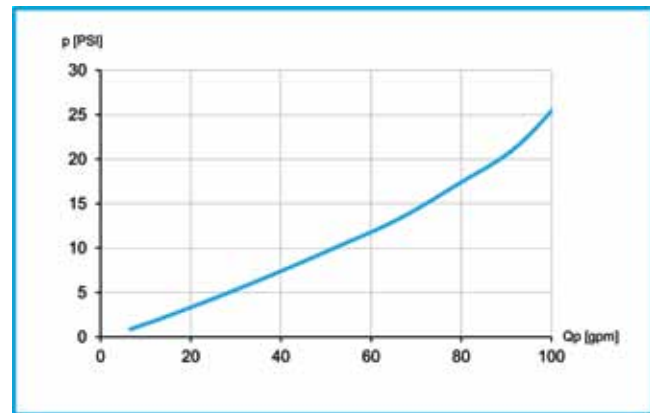
order number	description	motor power	oil pressure	oil flow	rotation	air flow	noise level	weight
		[HP]	[PSI]	[gpm]	[rpm]	[SCFM]	[dB (A)]	[lbs]
ASA0929SH11	ASA 0929 hyd. motor 0.67 in ³	1.63	1020	3.1	1000	7695.4	88	341
		3.54	1700	4.0	1300	9884	92	
		6.46	2520	4.9	1600	11260.7	97	

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	230 PSI (static)

Options

motor data	alternative voltages, frequencies, IP classes, etc on request
temperature switch	122°F, 140°F or 194°F (page 38)

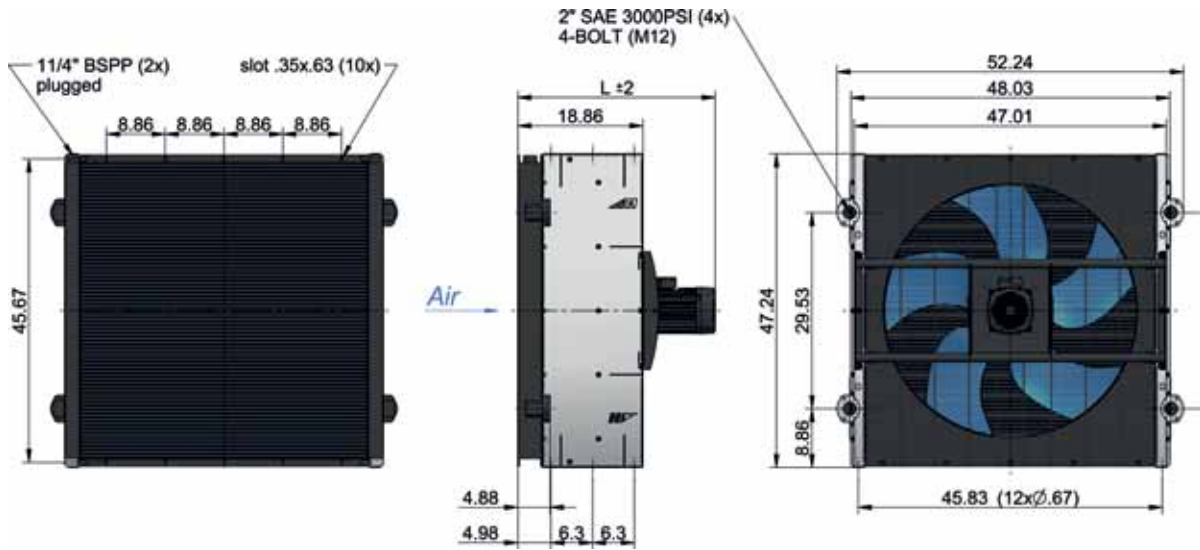


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Oil / Air Cooler HL 1247 HighLine

230/460V 60Hz AC

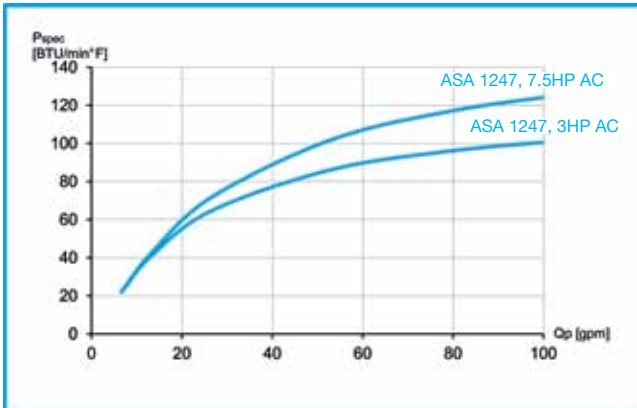


Technical Data

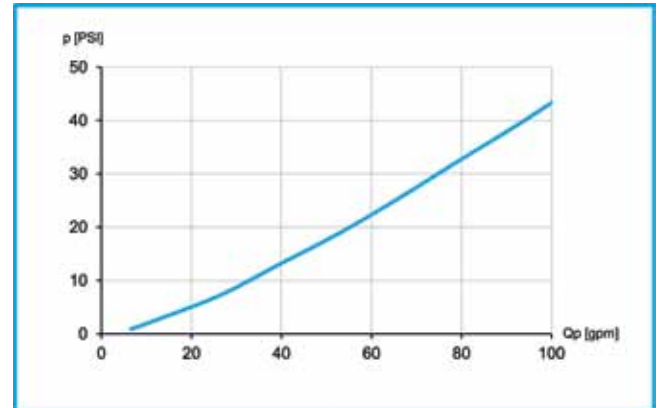
order number	description	current	motor power	protection level	rotation	air flow	noise level	weight
		[A]	[HP]		[rpm]	[SCFM]	[dB (A)]	[lbs]
ASA1247SA6C	ASA 1247 3HP AC	4.8	3	IP 55	1200	11684	88	424.6
ASA1247SA6F	ASA 1247 7.5HP AC	11	7.5	IP 55	1175	13290	95	424.6

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	230 PSI (static)

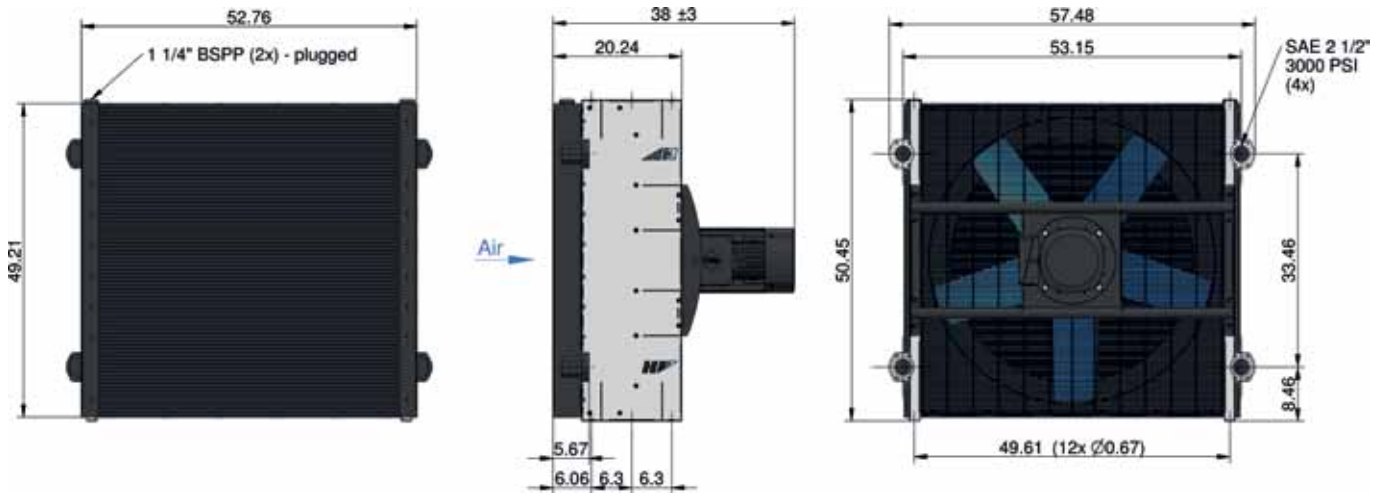


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Oil / Air Cooler HL 1508 HighLine

230/460V 60Hz AC

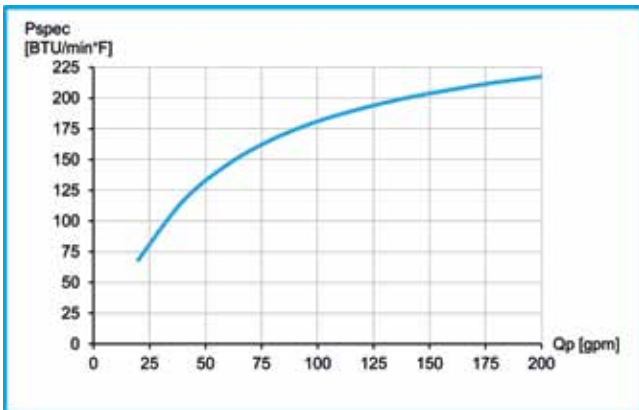


Technical Data

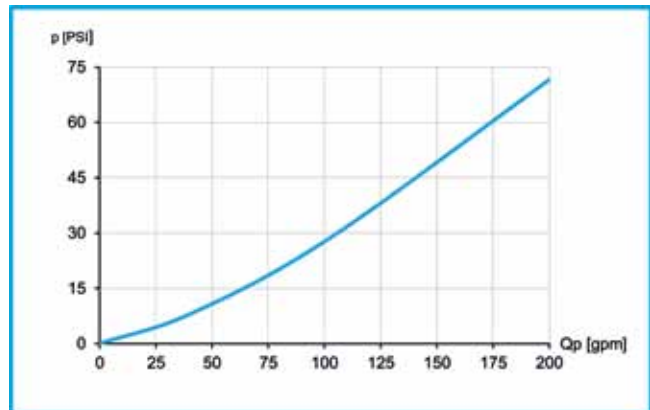
order number	description	power [HP]	current [A]	protection level	revolution [rpm]	air flow [SCFM]	noise level [dB (A)]	weight [lbs]
ASA1508SA6GU	ASA 1508 208-230/460V	12.2	15.5	IP 55	1155	22592	99	639.3

Performance

specific cooling performance



pressure drop at 150 SSU



Radiator

material:	aluminum
working temperature range:	-4°F to 212°F
air fin shape:	wavy
working pressure:	230 PSI (static)

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Connector Accessories Rail Series

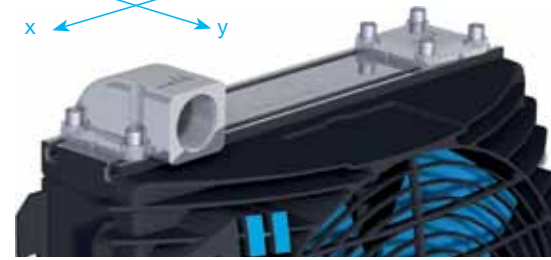
UN 1⁵/₁₆" , UN 1⁵/₈"



Description

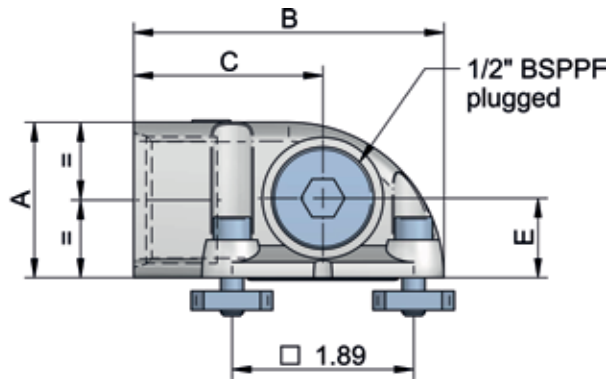
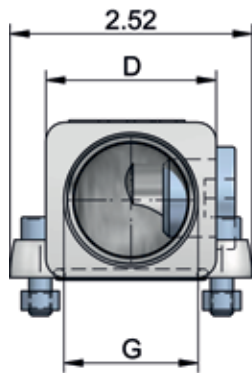
The asa rail system is the first worldwide flexible mounting and connection system for air blast heat exchangers. The flexibility comes from free choice of the port's direction. Each port on the radiator has 3 possibilities. This well designed radiator concept brings another flexibility innovation hit to the standard cooler market: The oil flow direction can be chosen between u-flow direction and diagonal oil flow on each TT rail cooler!

The radiator rail slots are not only for connecting the hydraulic ports, it is also possible to have the system attached with e.g.: bypass systems, mounting of the cooler to an aggregate, measurement devices, and much more. Please contact us to discover the huge potential of this rail system for your application.

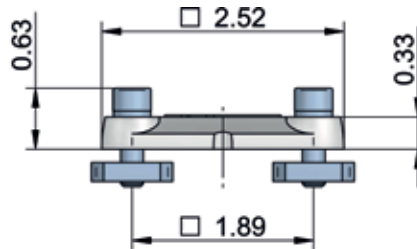


Technical Data

ported connector



blind connector



Technical Data

order number	description	connector material	o-ring	A	B	C	D	E	G	weight
				[in]	[in]	[in]	[in]	[in]		[lbs]
ILLZSET5U16	asa rail connector UN 1 ⁵ / ₁₆ "	aluminum	NBR, 70 shore, 1.38 x 0.12in	1.61	3.23	1.97	1.77	0.83	UN 5/16"	2.43
ILLZSET5U20	asa rail connector UN 1 ⁵ / ₈ "	aluminum	NBR, 70 shore, 1.38 x 0.12in	1.97	3.46	2.20	1.97	0.83	UN 5/8"	2.87

Content

ported connector	2x
blind connector	2x
o-ring	4x
slot nut	16x
plug screw BSPP 1/2"	2x
sealing BSPP 1/2"	2x
metric screw M6x25mm	16x
spring ring	16x

requires 1 set per cooler



Packed size, 1 set

Fits On Cooler Types

TT 07, 11, 16, 25

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Connector Accessories ASA Series

UN 1⁵/₈" , UN 1⁷/₈"

asa uc

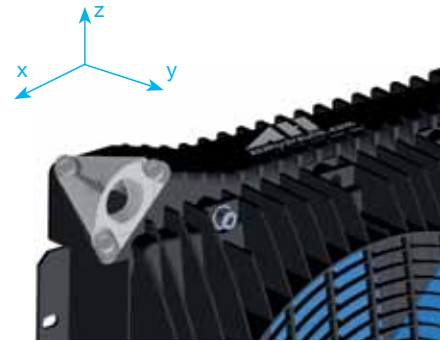


Description

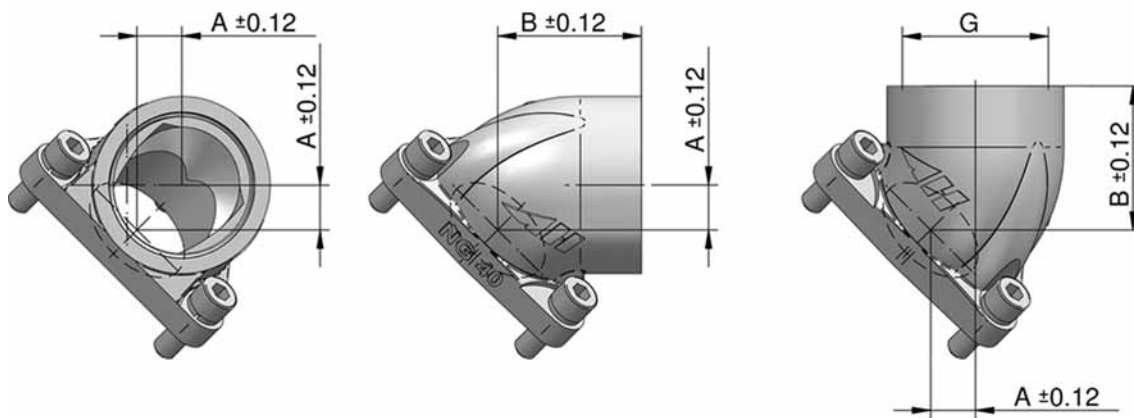
The asa universal connector is a patented system that offers many possibilities regarding dimension and direction of the hydraulic connection.

With each connector you can choose from 3 directions how to install it into the hydraulic circuit. The stream optimized design reduces the total pressure drop on the cooler. The omission of screwed joints reduces the number of sealing surfaces.

The available connector dimensions depend on the cooler size and are shown in the table below.



Technical Data



order number	description	connector material	o-ring	A	B	G	weight
				[in]	[in]		[lbs]
ILLZASA32U20	AUC NG 32 – UN 1 ⁵ / ₈ "	aluminum	NBR, 70 shore, 1.38x0.12in	0.55	1.34	UN 1 ⁵ / ₈ "	0.68
ILLZASA40U24	AUC NG 40 – UN 1 ⁷ / ₈ "	aluminum	NBR, 70 shore, 1.73x0.12in	0.59	1.85	UN 1 ⁷ / ₈ "	0.64

Content

asa universal connector	1x
o-ring	1x
screw	3x
spring ring	3x

Fits On Cooler Types

ASA 0177, 0257, 0367, 0467, 0567, 0927

requires 2 pcs per cooler



Packed size, 2 pieces

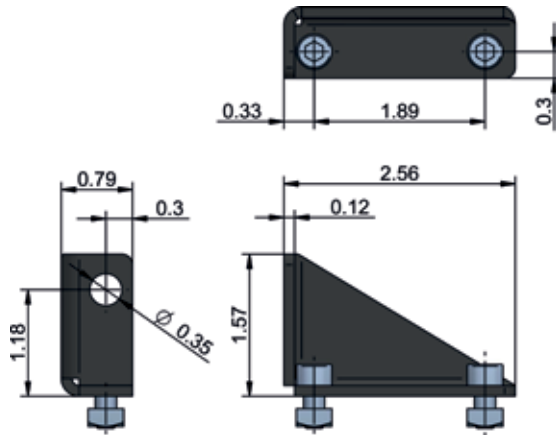
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Mounting Accessories

mounting attachments, foot mounting brackets

Mounting Brackets

The mounting brackets for asa rail system coolers offers the possibility to customize the cooler to the application. Each rail system cooler can be attached with one or more of these brackets. 1 set includes 2 brackets with the required mounting material to attach it to the rail (nuts, screws).

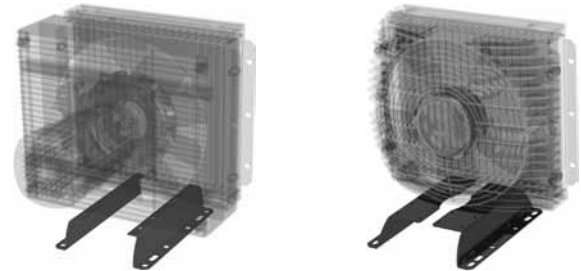
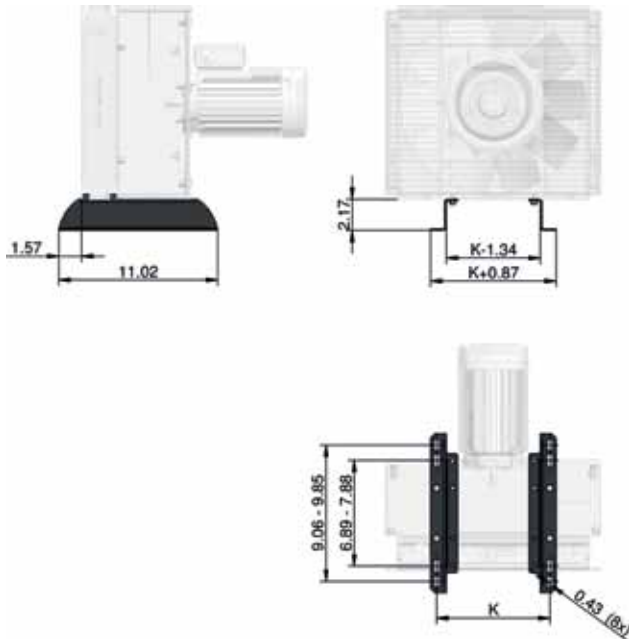


order number	description	fits on cooler type			
		TT 07	TT 11	TT 16	TT 25
MW3046K	rail mounting bracket kit (includes 2 brackets and screws/washers)	•	•	•	•

- ... optional available

Foot Mounting

The foot mounting option is available on all rail system coolers. The optional heavy duty design is recommended for use on mobile machines and vehicles or other heavy duty applications. 1 set consists of the 2 feet brackets with mounting material.



standard mounting set			heavy duty mounting set		
cooler	K _{min} [in]	K _{max} [in]	cooler	K _{min} [in]	K _{max} [in]
TT 07	3.94	5.31	TT 07	7.87	7.87
TT 11	5.91	8.46	TT 11	7.87	7.87
TT 16	7.87	11.42	TT 16	7.87	10.63
TT 25	7.87	14.96	TT 25	7.87	14.17

order number	description	fits on cooler type			
		TT 07	TT 11	TT 16	TT 25
ILLEFUSSTTK	mounting feet set TT 07 – 25	•	•	•	•
ILLEFUSSTTHDK	mounting feet set TT 07 – 25 HD (heavy duty)	•	•	•	•

- ... optional available

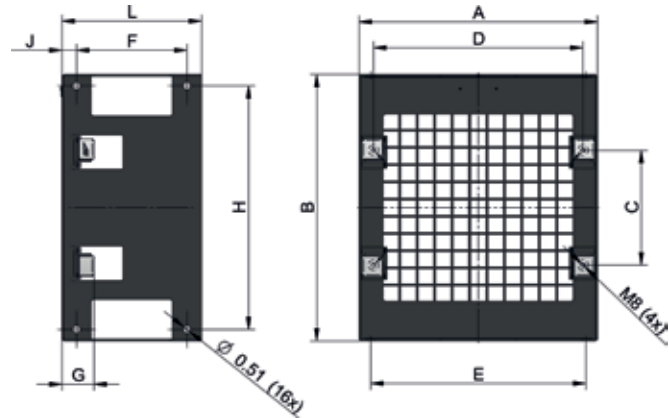
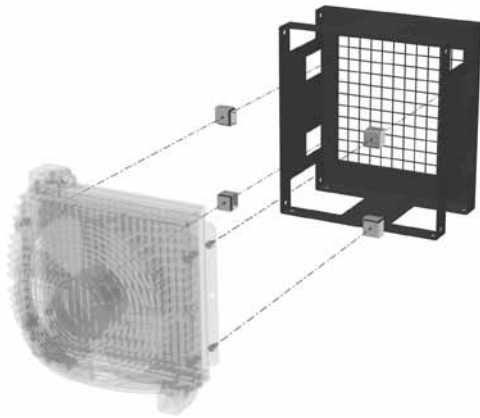
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Mounting Accessories

protection housing, tread plate

Protection Housing

The housing serves for flexible, economic and easy mounting for many assembly situations. The mechanical stress, especially at mobile applications can be reduced by the used rubber shock absorbers between housing and cooler. The radiator side is protected by a robust grid.



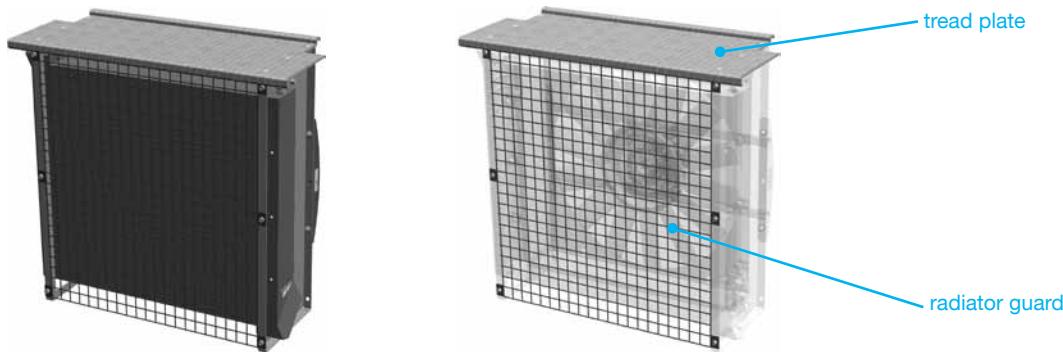
order number	description	A	B	C	D	E	F	H	L	weight
		[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[lbs]
ILLEGAKTT07GT	protection housing kit TT 07	13.39	16.73	6.77	11.42	11.81	7.48	15.16	9.45	18.30
ILLEGAKTT11GT	protection housing kit TT 11	16.14	18.31	7.87	14.17	14.57	7.48	16.73	9.45	20.94
ILLEGAKTT16GT	protection housing kit TT 16	19.29	23.23	12.05	17.17	17.72	8.27	21.65	10.24	30.86

order number	description	fits on cooler type			
		TT 07	TT 11	TT 16	TT 25
ILLEGAKTT07GT	protection housing kit TT 07	•	–	–	–
ILLEGAKTT11GT	protection housing kit TT 11	–	•	–	–
ILLEGAKTT16GT	protection housing kit TT 16	–	–	•	–

- ... optional available
- ... not available

Tread Plate / Radiator Guard

The tread plates are accessories for the asa series cooler types with side frames (AC and hydraulic drive versions). The solid plates are used for applications where maintenances and servicing procedures require the cooler as a safe surface to step on. The radiator guard is a solid protection to avoid damages on the radiator air fins and oil channels.

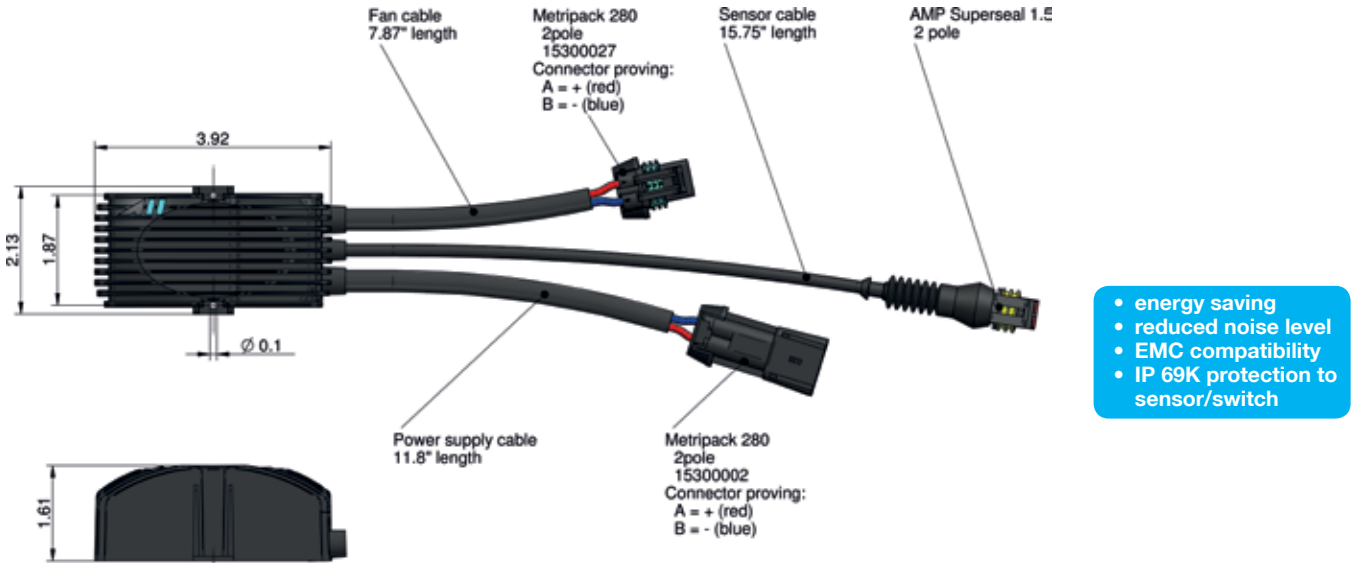


description	kit includes:	fits on cooler type					
		ASA 0177*	ASA 0257*	ASA 0367*	ASA 0467*	ASA 0567*	ASA 0927*
tread plate kit	plate, flat screws;	○	•	•	○	○	○
radiator guard	grid, screws, washers;	○	•	•	○	○	○

- ... optional available
- ... available on request
- * ... DC drive versions are not compatible with these accessories

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This system consists of a temperature sensor (ILLZTT5069K) and a control unit (12V or 24V available). The fan speed varies according to the actual oil temperature on the sensor. This reduces the noise level of the cooler system and increases the durability of the fan motor, because it is not running on the maximum speed all the time. The start up temperature of this system is 111°F and the maximum rotation of the fan is applied when the oil temperature reaches 131°F. The electro-magnetic compatibility (EMC) is tested according to CE (89/336/EC) and E (95/54/EC). Moreover the control unit (ILLZTC12-2K and ILLZTC24-2K) can also be connected with our temperature switches (IP69K switch type). This is a simple on/off mode, according to the switch temperature. The control unit benefit is the soft start curve, extending the life time of the fan motor.



order number	description	max. power fan motor	max. current fan	protection	weight	supply
		[W]	[A]		[lbs]	DC
ILLZTC12-2K	temperature control 12V DC	310	21 (14,7V DC)	IP 67	0.55	12V (9V – 15V)
ILLZTC24-2K	temperature control 24V DC	340	12 (24V DC)	IP 67	0.55	24V (18V – 32V)

Characteristics

material:	polyamide
mounting instructions	any mounting position

Measurement input

temperature sensor	ILLZTT5069K (control range 111-131°F)
temperature switch	ILLZTH5069K (set point 122°F, soft start)
	ILLZTH6069K (set point 140°F, soft start)
	ILLZTH9069K (set point 194°F, soft start)



Ambient Conditions

ambient temperature range	-4°F to +185°F
storage temperature range	-76°F to +230°F

Combinations

12V and 24V DC coolers	LL 04, LL 06 / TT 07 – 25 rail / ASA 0177 – 0367
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Please note:

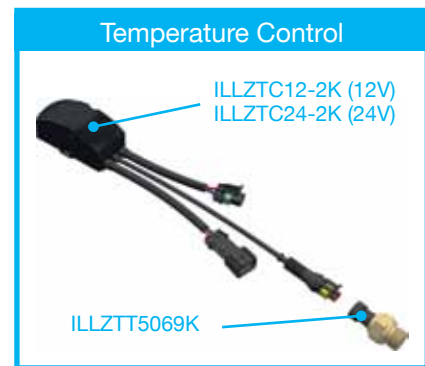
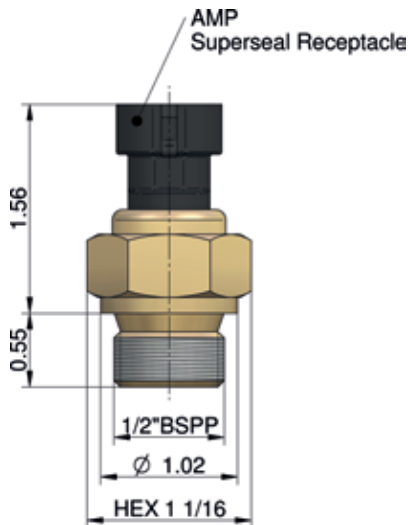
The maximum start current is approximately 10% higher than the nominal current of the motor. Observe the maximum allowable supply of the fan motor. The allowed voltage range of the fan might differ from the allowed voltage range of the temperature control. In case of inverse polarity of the supply, the control unit is deactivated. After changing the polarity, the control is ready for use again. If the supply voltage exceeds 16,5V (ILLZTC12-2K) and 32V (ILLZTC24-2K) respectively, the control is switched off to protect the fan. After supply voltage is reducing below 12V or 24V, respectively, the control is activated again, automatically. The closed current is 5mA (ILLZTC12-2K) and 4mA (ILLZTC24-2K), respectively. The recommended fuse is fast acting 25A (ILLZTC12-2K) and 16A (ILLZTC24-2K), respectively. Due to the high currents (21A at the ILLZTC12-2K), the dimension of the electrical wires must be appropriate and in case of a luster terminal it has to be tightened properly.

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Electronic Accessories

temperature sensor

The temperature sensor requires a control unit for the control system which is available in 12V (ILLZTC12-2K) and 24V (ILLZTC24-2K). The fan speed varies according to the actual oil temperature on the sensor. This reduces the noise level of the cooler system and increases the durability of the fan motor, because it is not running on the maximum speed all the time. The start up temperature of this system is 111°F and the maximum rotation of the fan is applied when the oil temperature reaches 131°F.



- NTC sensing
- IP 69K protection
- compact design

Technical Data

order number	description	connection	protection	weight
				[lbs]
ILLZTT5069K	temperature sensor BSP 1/2"	AMP superseal 1.5	IP 69K	0.20

Characteristics

screw part material	brass
mounting instructions	any mounting position
maximum tightening torque	36.8 lb, ft

Measurement Output

connection	AMP superseal 1.5
------------	-------------------

Ambient Conditions

oil temperature range	-4°F to +212°F
ambient temperature range	-4°F to +185°F
storage temperature range	-76°F to 230°F

Required Accessories

temperature control unit 12V DC	ILLZTC12-2K
temperature control unit 24V DC	ILLZTC24-2K

Combinations

12V and 24V DC coolers	LL 04, LL 06 / TT 07 – 25 rail / ASA 0177 – 0367
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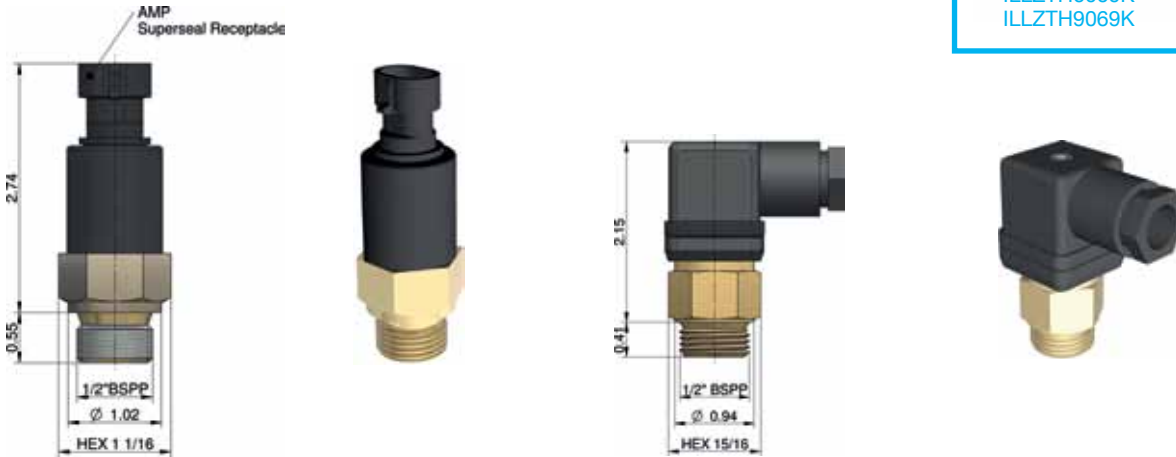
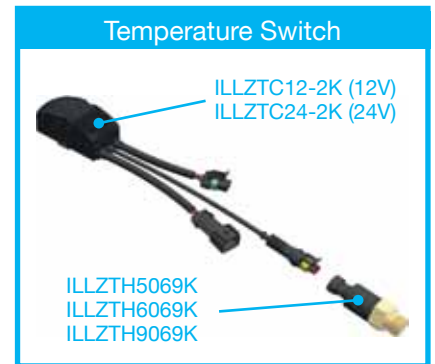
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Electronic Accessories

temperature switches

According to the cooler type and size, our temperature switches fit on all coolers and connectors with BSP 1/2" threads. Please contact us for the compatibility of the products. IP69K switch types (ILLZTH5069K, ILLZTH6069K and ILLZTH9069K) work in combination with our temperature control units ILLZTC12-2K (12V) and also with ILLZTC24-2K (24V). This is a simple on/off mode, according to the switch temperature. The control unit benefit is the soft start curve, extending the life time of the fan motor.

On request we offer various other bi-metal temperature switches with different temperature settings, protection classes and connection makes.



order number	description	connection	protection	switch temperature	differential	weight
				[°F]	[°F]	[lbs]
ILLZTH5069K	temperature switch 122°F	AMP superseal 1.5	IP 69K	122 ± 41	50	0.22
ILLZTH6069K	temperature switch 140°F	AMP superseal 1.5	IP 69K	140 ± 41	50	0.22
ILLZTH9069K	temperature switch 194°F	AMP superseal 1.5	IP 69K	194 ± 41	50	0.22
ILLZTH4765K	temperature switch 122°F	plug (ISO 4400)	IP 65	122 ± 41	50	0.20
ILLZTH6065K	temperature switch 140°F	plug (ISO 4400)	IP 65	122 ± 41	50	0.20

Characteristics

screw part material	brass
mounting	any position
max. tightening torque	36.8 lb _f ft
number of cycles	100,000
counter connector	included

Combinations

all coolers and connectors with BSP 1/2" threads

Measurement Output

contact	N.O. (normal open)
minimum current	200mA
maximum current	12V AC: 10A
	24V AC: 10A
	120V AC: 15A
	230V AC: 10A

Use power relay for switching!

Ambient Conditions

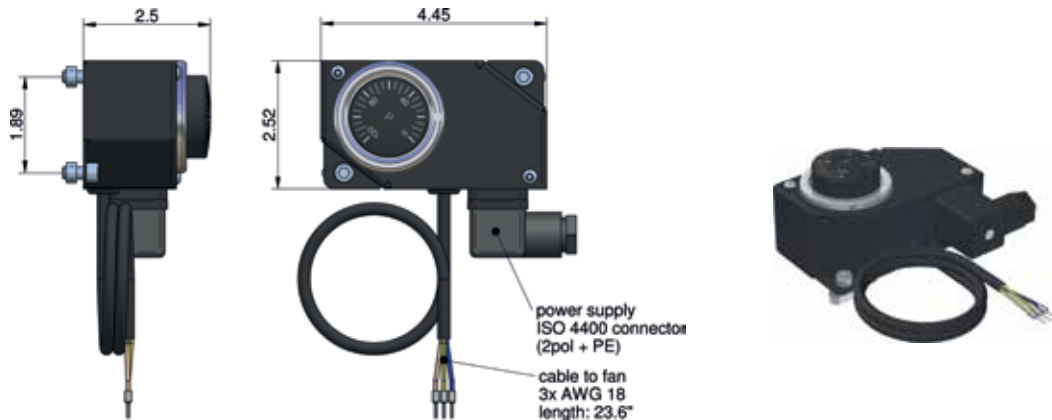
oil temperature range	-4°F to +212°F
ambient temperature range	-4°F to +185°F
storage temperature range	-140°F to 230°F

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Electronic Accessories

temperature control AC

The AC temperature control is a system with a thermostat, which is non oil touch connected to the rail on the coder. The setting of the switch temperature can be changed by rotating the button on the top of the device. The control box suits on all rail system coolers; also the 12V or 24V DC systems can be attached with this system. The wiring to the fan must be individually completed by the end customer.



Technical Data

order number	description	switch control range	protection	weight
		[°F]		[lbs]
ILLZTCAK	temperature control 115V/230V AC	-22 / +248 (-30/+120°C)	IP 40	1.23

Characteristics

material housing	steel sheet metal, powder coated
mounting instructions	any mounting position

Operation

switch control range	-22/+248°F
contacts rating	C.1-10(2,5)A/250V~
	C.2-6(2,5)A/250V~

Ambient Conditions

max. head temperature	+185°F
max. bulb temperature	+302°F
storage temperature range	5°F to +131°F



Please note:

- The reference room temperature for the setting is 68°F.
- superficial current: PTI 250
- type of action (ref. EN60730-1): 2B

Overview / Combinations

asa electronics	LL 02	LL 04	TT 06	TT 05	TT 07	TT 11	TT 16	TT 25	ASA 0177	ASA 0257	ASA 0367	ASA 0467	ASA 0567	ASA 0927
temperature control ILLZTT5069K + ILLZTC12-2K or 24-2K	-	•	•	•	•	•	•	•	•	•	•	-	-	-
temperature control reversible ILLZTCB00 + ILLZTH5067K	-	•	•	•	•	•	•	•	•	•	•	-	-	-
temperature switch ILLZTH5069K	•	•	•	•	•	•	•	•	•	•	•	•	•	•
temperature switch ILLZTH6069K	•	•	•	•	•	•	•	•	•	•	•	•	•	•
temperature switch ILLZTH9069K	•	•	•	•	•	•	•	•	•	•	•	•	•	•
temperature switch ILLZTH4765K	•	•	•	•	•	•	•	•	•	•	•	•	•	•
temperature switch ILLZTH6065K	•	•	•	•	•	•	•	•	•	•	•	•	•	•
temperature control AC ILLZTCAK	-	-	-	-	•	•	•	•	-	-	-	-	-	-

- ... optional available - ... not available

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Temperature Control

12V / 24V DC, for reversible fan drive

This system works with of a temperature sensor (ILLZTT5067K – not in scope of delivery) and a control unit (ILLZTCB00 – suitable for 12V and 24V). The fan speed varies according to the actual oil temperature on the sensor. This reduces the noise level of the cooler system and increases the durability of the fan motor, because it is not running on the maximum speed all the time. The start up temperature of this system is 104°F and the maximum rotation of the fan is applied when the oil temperature reaches 140°F. This system is programmed to reverse fan direction according to the operation cycle data below.

- energy saving
- reversible fan drive
- 12V and 24V supply



Technical Data

order number	description	rated power supply	protection	protection	weight
		[V]	[A]		[lbs]
ILLZTCB00	temperature control DC reversible	7–40	30	IP 67	1.23

Operating fan cycle

Temperature setup: the fan starts at 104°F and reaches maximum speed at 140°F.

- thermal switch = ON
- delay = 30 seconds
- 20 seconds for accelerations in reverse direction
- fan reversal = 30 seconds (maximum speed)
- 20 seconds for deceleration
- delay = 10 seconds
- 20 seconds for acceleration in normal direction
- fan (forward) = 45 minutes (fan speed depending on oil temperature)
- 20 seconds for deceleration
- delay = 15 seconds
- repeat steps c–j

Characteristics

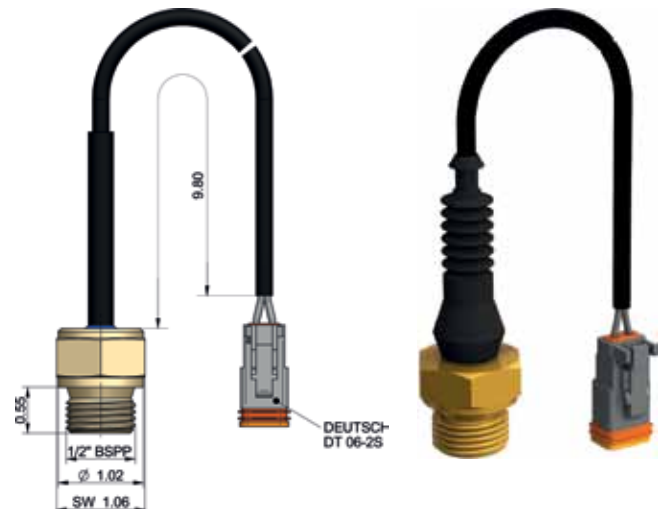
- rated power 25A intermediate operation
- 20A without air velocity over surface of fan control
- product is labeled with date of production (month/year)
- Product was successfully tested with 20G on all 3 axles with 6 cycles for each axle.
- The electronic is self protected against accidental block of the electric fan.
- It is necessary to have a fuse (for each single electric fan). The fuse value must be suitable for the input current of the used electric fan.
- internal protection against reverse polarity
- internal protection against load dump
- life time: over 200.000 cycles
- standby current 150mA with fan not running

Ambient Conditions

- oil temperature range: -4°F to +185°F
- ambient temperature range: -40°F to +203°F

System (additional required parts)

- temperature sensor kit, 1pc per cooler required.
- order number: ILLZTT5067K



Compatibility

- all asa DC fan units with Metri Pack 280 connection system

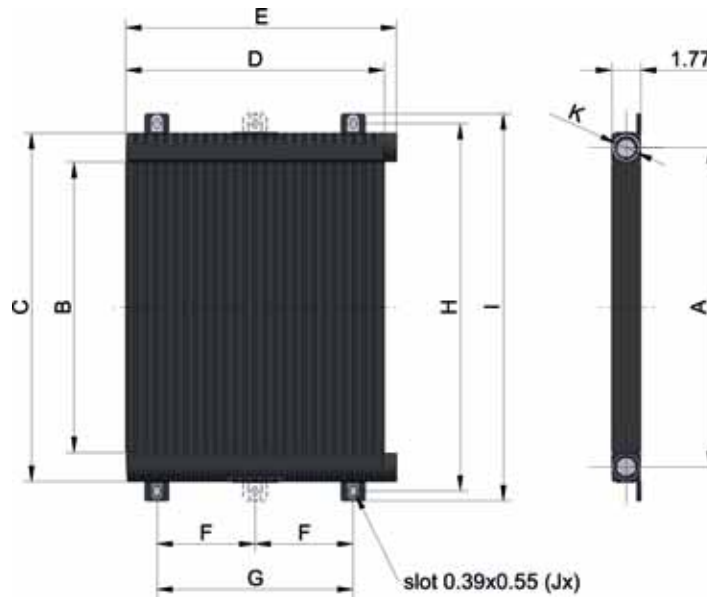
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12 SERIES

front mount radiators

The 12 series radiators are very successful in the market with a high recommendation through various applications and branches. The plate and bar design with its proven quality are built to the same standards as on our other standard range coolers.

Dimensions

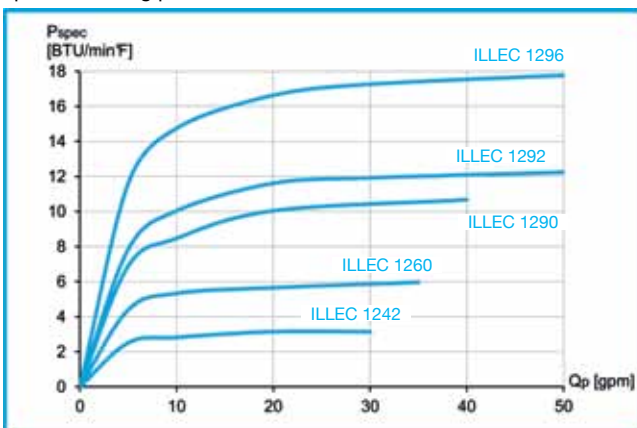


Technical Data

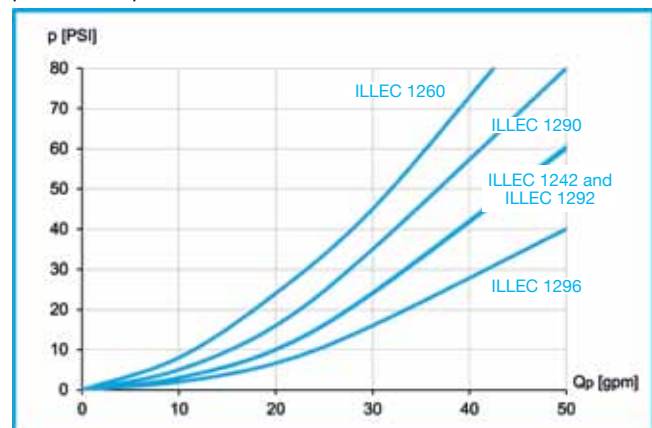
order number	A	B	C	D	E	F	G	H	I	J	K	weight
	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]		SAE	[lbs]
ILLEC1242	11.22	9.44	12.99	7.87	8.66	-	6.00	14.25	15.23	4	#16	5.80
ILLEC1260	19.48	17.71	21.26	7.87	8.66	-	6.00	23.50	23.50	4	#16	8.25
ILLEC1290	19.48	17.71	21.26	11.82	12.60	-	8.00	23.50	23.50	4	#16	11.80
ILLEC1292	19.48	17.71	21.26	15.74	16.53	6.00	12.00	23.50	23.50	6	#16	15.45
ILLEC1296	19.29	17.32	21.26	23.62	24.80	10.00	20.00	23.50	23.50	6	#20	25.50

Performance

specific cooling performance at 1500FPM air flow



pressure drop at 150 SSU



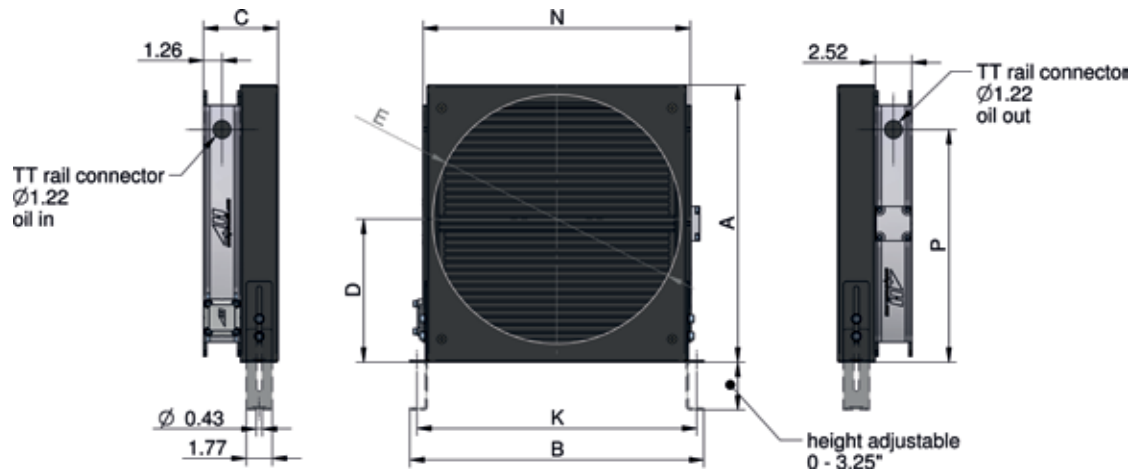
Characteristics

maximum oil temperature	212°F
maximum working pressure	370PSI (static)
radiator material	aluminum

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Oil / Air Cooler Series NE

for NEMA mount, frames 56 to 365T



Main Dimensions

description	order number	order number bypass	A	B	C	K	N	P	weight (no bypass)	weight (bypass)
			[in]	[in]	[in]	[in]	[in]	[in]	[lbs]	[lbs]
TT 07 rail NE	ASATT07R0	ASATT07R0BP	13.00	15.35	4.29	14.41	11.81	10.02	15.4	17.1
TT 11 rail NE	ASATT11R0	ASATT11R0BP	15.35	15.35	4.29	14.41	13.39	12.70	18.0	19.1
TT 16 rail NE	ASATT16R0	ASATT16R0BP	18.19	20.08	5.08	19.13	18.27	15.87	29.3	31.3

Dimension D and E

description	without adapter plate			with ILLEGHADA056			with ILLEGHADA143			with ILLEGHADA182			with ILLEGHADA215		
	Nema size	D [in]	E [in]	Nema size	D [in]	E [in]	Nema size	D [in]	E [in]	Nema size	D [in]	E [in]	Nema size	D [in]	E [in]
TT 07 rail NE	213T, 215T	5.50	10.67	56	4.00	7.08	143T, 145T	4.00	7.36	182T, 184T	5.00	9.05	213T, 215T	-	-
TT 11 rail NE	254T, 256T	6.15	12.60	56	4.00	7.08	143T, 145T	4.00	7.36	182T, 184T	5.00	9.05	213T, 215T	5.66	10.80
TT 16 rail NE	364T, 365T	9.75	17.00	213T, 215T	7.14	10.80	284T, 286T	9.75	14.62						

Technical Data

Characteristics

material	aluminium
air fin shape:	wavy
working pressure:	370 PSI (static)

Operations*)

asa rail connectors	UNF 1 5/16, UNF 1 5/8, BSP 1", BSP 1 1/4"
---------------------	---

*) Please contact us for further options and assistance.



Adapter Table

NEMA frame	TT 07	TT 11	TT 16
56	ILLEGHADA056	ILLEGHADA056	-
143T, 145T	ILLEGHADA143	ILLEGHADA143	-
182T, 184T	ILLEGHADA182	ILLEGHADA182	-
213T, 215T	no adapter required	ILLEGHADA215	ILLEGHADA215-16
254T, 256T	-	no adapter required	-
284T, 286T	-	-	ILLEGHADA284-16
324T, 326T	-	-	-
364T, 365T	-	-	no adapter required

Air Flow

NEMA frame	air flow [SCFM]
56	40
143T, 145T	50
182T, 184T	80
213T, 215T	100
254T, 256T	110
284T, 286T	140
324T, 326T	180
364T, 365T	320

The cooling performance data are based on the mentioned air flows. Please note that the air flows can differ, depending on make of the motor.

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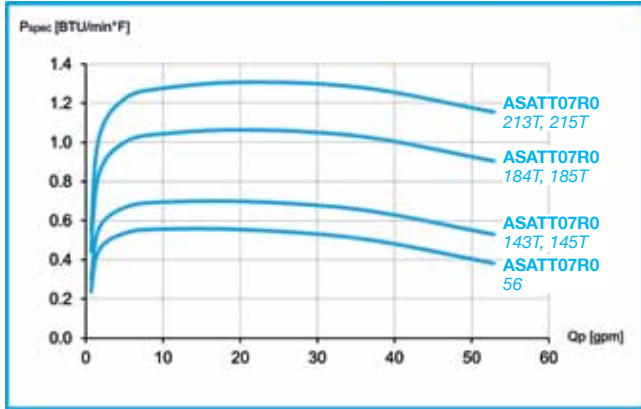
Oil / Air Cooler Series NE

for NEMA mount, frames 56 to 365T

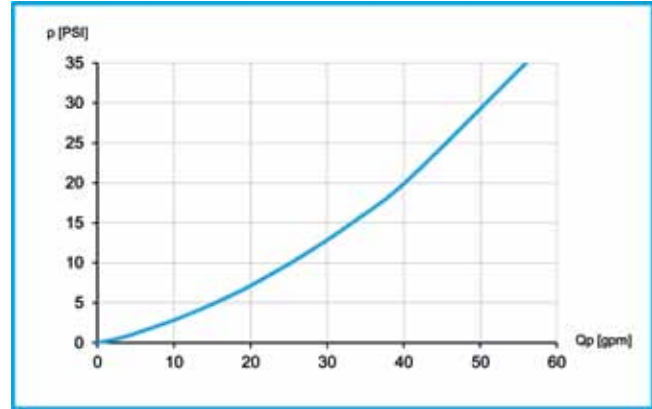
Performance TT 07 rail NE

specific cooling performance

cooler number
Nema frame

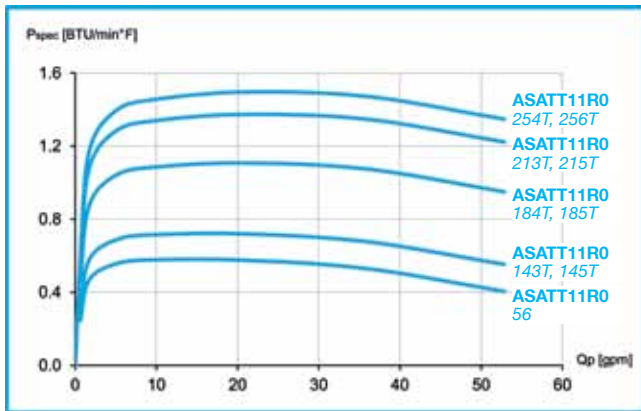


pressure drop at 150 SSU

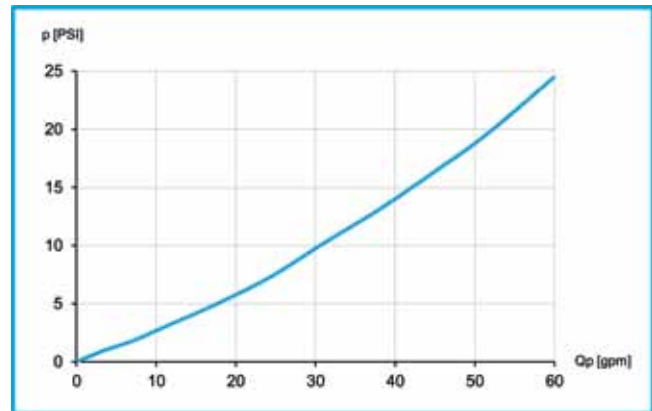


Performance TT 11 rail NE

specific cooling performance

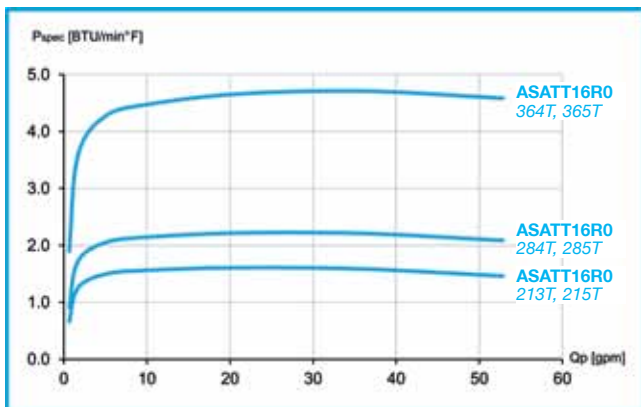


pressure drop at 150 SSU

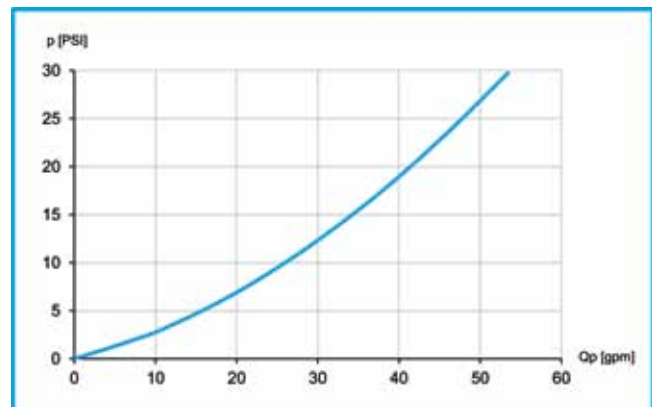


Performance TT 16 rail NE

specific cooling performance



pressure drop at 150 SSU



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- group
- overview
- LL 01 DC/AC
- LL 02 DC/AC
- LL 04 DC/AC
- LL 06 DC/AC compact
- TT rail DC
- TT rail AC
- TT rail AC compact
- TT rail HYD
- ASA DC
- ASA AC
- ASA HYD
- HL 0929 AC/HYD
- HL 1247 HL 1508
- connector
- mounting
- electronic
- cooler systems
- calculation / other products

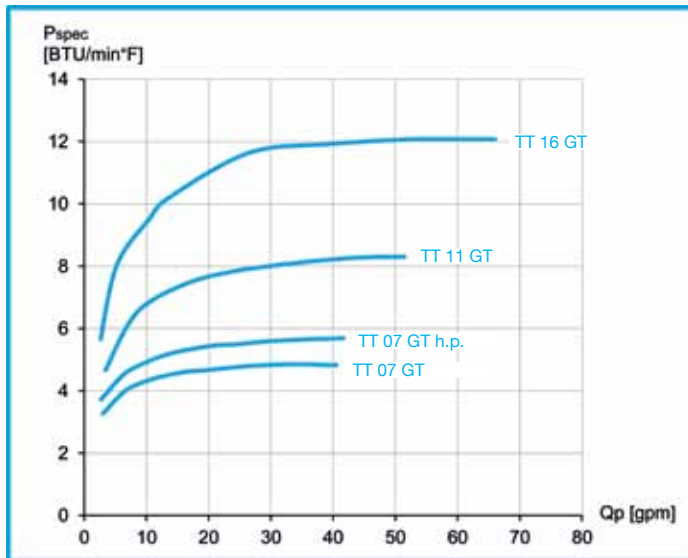
Cooling Systems

GT cooler

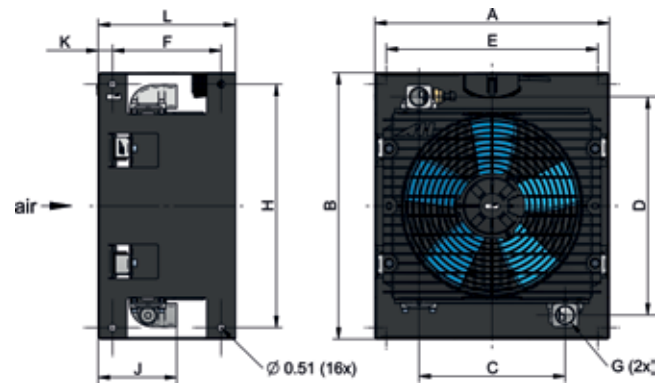
The GT cooler is a ready mounted cooler package, consisting of a cooler, protection housing, mounted rail connectors and the ready wired electronic temperature control. All standard cooler sizes from LL 06, TT 07 to TT 07 to ASA 0177 are available as a GT cooler. Also the internal bypass version is easy to integrate with the same housing dimensions. The temperature control works in connection with a temperature sensor controlling the fan with the optimal fan speed and a soft start curve (see pages 36, 37). This reduces the noise level and increases the life time of the fan unit. The protection housing is a solid metal framework for rough mobile and special applications. The radiator side is protected by a metal grid and the whole cooler is mounted on the asa rubber vibration absorbers to reduce the mechanical stress.

Performance

specific cooling performance



Dimensions



order number	description	A	B	C	D	E	F	G	H	J	K	L	weight	optional internal bypass (30PSI)
		[in]	[in]	[in]	[in]	[in]	[in]	UN	[in]	[in]	[in]	[in]	[lbs]	cooler order number
ASATT07UD01GT	TT 07 rail 12V DC GT	13.15	16.73	6.91	13.43	11.81	7.48	1 ⁵ / ₁₆ "	15.16	4.49	0.79	9.45	30.1	ASATT07UD01BP
ASATT07UD02GT	TT 07 rail 24V DC GT	13.15	16.73	6.91	13.43	11.81	7.48	1 ⁵ / ₁₆ "	15.16	4.49	0.79	9.45	30.1	ASATT07UD02BP
ASATT07UD03GT	TT 07 rail 12V DC h.p. GT	13.15	16.73	6.91	13.43	11.81	7.48	1 ⁵ / ₁₆ "	15.16	4.49	0.79	9.45	31.0	ASATT07UD03BP
ASATT07UD04GT	TT 07 rail 24V DC h.p. GT	13.15	16.73	6.91	13.43	11.81	7.48	1 ⁵ / ₁₆ "	15.16	4.49	0.79	9.45	31.0	ASATT07UD04BP
ASATT11UD01GT	TT 11 rail 12V DC GT	16.14	18.31	10.08	15.00	14.57	7.48	1 ⁵ / ₁₆ "	16.73	5.39	0.98	9.45	44.3	ASATT11UD01BP
ASATT11UD02GT	TT 11 rail 24V DC GT	16.14	18.31	10.08	15.00	14.57	7.48	1 ⁵ / ₁₆ "	16.73	5.39	0.98	9.45	44.3	ASATT11UD02BP
ASATT16UD01GT	TT 16 rail 12V DC GT	19.29	23.23	12.91	20.28	17.72	8.27	1 ⁵ / ₈ "	21.65	5.63	0.98	10.24	67.4	ASATT16UD01BP
ASATT16UD02GT	TT 16 rail 24V DC GT	19.29	23.23	12.91	20.28	17.72	8.27	1 ⁵ / ₈ "	21.65	5.63	0.98	10.24	67.4	ASATT16UD02BP

Radiator

material:	aluminum
working temperature range:	-4°F to 176°F
air fin shape:	wavy
working pressure:	370 PSI (static)

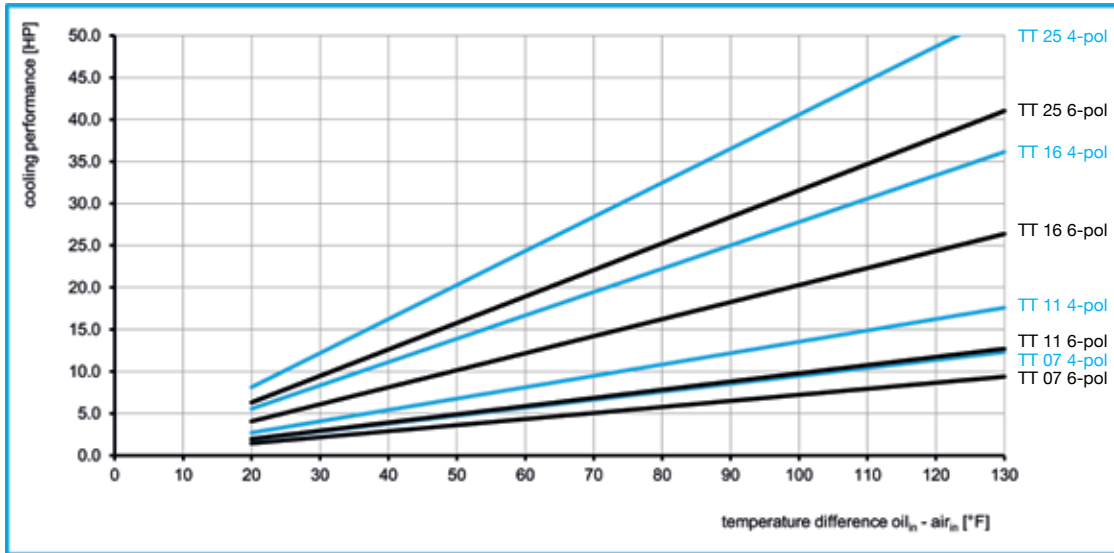


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Cooling Systems

CC Series

The oil/ air coolers of our CC series are autonomous cooling systems with an integrated circulation pump. They work as a separate cooling unit or as a filter cooling unit with an adequate filter. The benefits of such circulation coolers are a constant cooling performance and a higher durability, because there are no pressure vibrations or peaks in the cooler unit.



order number	description	oil flow	max. working pressure	motor power	motor current	rotation	air flow	noise level	weight
		[gpm]	[PSI]	[HP]	[A]	[rpm]	[SCFM]	[dB(A)]	[lbs]
ASATT07RA48CC	TT 07 rail CC 4-pol	9.5	145	1.50	2.17	1720	335	69	64
ASATT11RA48CC	TT 11 rail CC 4-pol	9.5	145	1.50	2.17	1720	600	74	74
ASATT16RA48CC	TT 16 rail CC 4-pol	9.5	145	1.50	2.17	1720	1024	79	84
ASATT25RA48CC	TT 25 rail CC 4-pol	9.5	75	1.50	2.17	1720	2520	83	106
ASATT07RA67CC	TT 07 rail CC 6-pol	6.3	145	0.75	tba*	tba*	225	60	66
ASATT11RA67CC	TT 11 rail CC 6-pol	6.3	145	0.75	tba*	tba*	405	61	76
ASATT16RA67CC	TT 16 rail CC 6-pol	6.3	145	0.75	tba*	tba*	741	67	86
ASATT25RA67CC	TT 25 rail CC 6-pol	6.3	115	0.75	tba*	tba*	1644	73	107

The maximum suction pressure is -6 PSI. The viscosity range is <100cStk. Motor voltage: 208-230/460V @ 60Hz**. The protection level is IP 55. tba* ... to be advised

Design

radiator material	aluminum
radiator air fin shape	wavy
pump type	gerotor
pump material (housing)	aluminium
sheet metal material	powder coated steel
suitable fluids	mineral oil

Connection

connector (UN 1 ⁵ / ₈ "")	
ILLZATT53U16K	1 per cooler required

Options

asa rail connectors	UN 1 ⁵ / ₈ ", BSP 1", BSP 1 1/4"
temperature switch	50°C, 60°C
motor data**	alternative voltages, frequencie etc on request



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Calculation of an oil/air cooler

In all hydraulic systems any kind of restriction heats the oil. The oil temperature becomes higher and higher until the added thermal energy has the same value as the radiation energy and the energy which is caused by convection which both are absorbed by the surrounding atmosphere. After a certain operation time the temperature becomes stationary. If this temperature is too high, the oil must be cooled.

Hot oil costs money:

The oil changing period gets shorter. Gaskets and wearing components must be changed and the hydraulic system efficiency is reduced. In order to choose the required cooler type we must know the cooling performance.

Approximate calculation:

The cooling performance P_K can generally be calculated as follows:

$$P_M = \frac{p \times Q_p}{1714 \times \eta} \quad P_K = P_M (1 - \eta) \times 42.44$$

Hydraulic circuits with constant pumps have a general efficiency from approximately 70–75%, $\eta = 0,7$ bis $0,75$
Circuits with variable pumps: $\eta = 0,75$ bis $0,80$

η = general efficiency
 P_K = cooling performance [BTU/min]
 P_M = required motor power [HP]
 p = oil pressure [PSI]
 Q_p = oil flow [GPM]

How to find out the required cooling performance with the rise in temperature:

For existing hydraulic circuits the heat input to the oil can be accurately determined if the rise in temperature is known over a known period of time. This then gives the amount of heat to be dissipated by the cooler in order to maintain the system at an optimum operating temperature.

$$P_K = \frac{(t_2 - t_1)}{T} \times m \times 3.25$$

P_K = cooling performance [BTU/min]
 m = const. mass of the reservoir [GAL]
 t_1 = oil temperature at the begin [°F]
 t_2 = oil temperature at the end [°F]
 T = heat up time [h]

Temperature behaviour:

1. Oil temperature difference Δt_{oil} by one pass

$$\Delta t_{oil} = \frac{0.3 \times P_K}{Q_{oil}} \text{ [°F]}$$

2. Air temperature increase Δt_L

$$\Delta t_L = \frac{P_K \times 56.23}{Q_L} \text{ [°F]}$$

Q_L = air flow (SCFM)

Selection of the cooler:

After calculation of the required cooling performance (P_K) the specific cooling performance (P_{spec}) must be determined.

$$P_{spec} = \frac{P_K}{t_{oil} - t_L} \text{ [BTU/°F]}$$

P_{spec} = specific cooling performance (BTU/min°F)
 t_{oil} = oil temperature inlet (°F)
 t_L = air temperature inlet (°F)

Enter the value of P_{spec} (BTU/min°F) on the vertical line on the heat dissipation diagram and determine the junction with the horizontal line for oil flow (l/min) of the required cooler type. In most of the cases it is enough if this line is lying close to a curve in the diagram because the cooling capacity is calculated with enough safeties.

Calculation of the oil pressure drop:

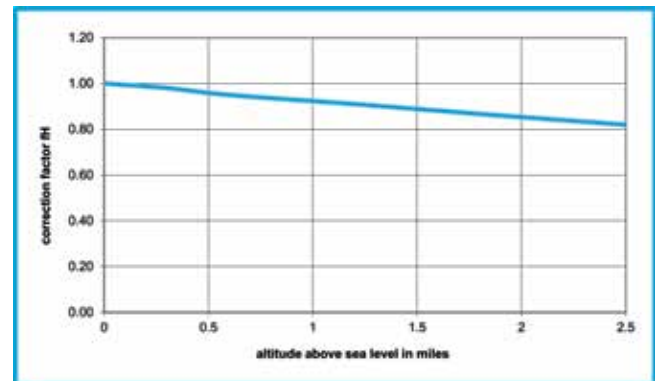
If the right cooler is found we recommend to check the oil pressure drop and to avoid too high oil pressure if necessary (e.g. bypass). The values indicated in the diagram are valid for a hydraulic oil with a viscosity of 30cSt (150 SSU). Multiply the pressure drop by the correction factor f according to the used hydraulic oil viscosity.

$$\Delta p = \Delta p_{150 \text{ SSU}} \times f_p$$

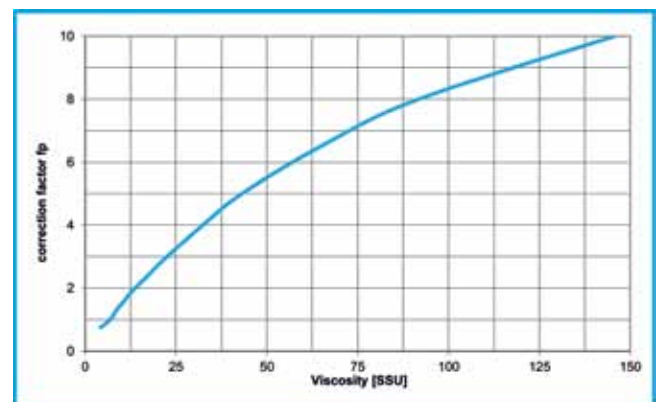
Δp = oil pressure drop [PSI]
 $\Delta p_{150 \text{ SSU}}$ = oil pressure drop at 150 oil viscosity [PSI]
 f_p = correction factor for the oil viscosity [1]

We also recommend you to check the oil pressure drop also for extreme situation (e.g. cold start).

Correction factor f_a for cooling performance depending on the altitude (approximate value)



Correction factor f_p for oil pressure drop (approximate value)



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special accessories other products &

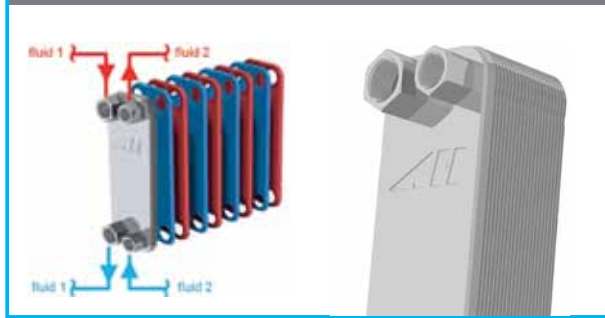
COMPONENT SYSTEMS

Leading quality engineering!



E SERIES

Brazed stainless steel plate heat exchanger



MOTOR/PUMP SYSTEMS

compact motor units with gerotor pumps



ATEX SERIES

ATEX certified air blast coolers according to CE Ex II 2G EEx c IIB T4



CUSTOMIZED SYSTEMS

Design and manufacture of customized cooling equipment for various applications



W SERIES

Special equipped heat exchangers for the wind energy industry, coastal and off shore applications



Please contact us for further information or see more products on our website. The calculation program for simple and exact cooler selection and our international correspondence is available for you 24h a day.

www.asahydraulik.com

group

overview

LL 01
DC/AC

LL 02
DC/AC

LL 04
DC/AC

LL 06
DC/AC
compact

TT rail DC

TT rail AC

TT rail AC
compact

TT rail
HYD

ASA DC

ASA AC

ASA HYD

HL 0929
AC/HYD

HL 1247
HL 1508

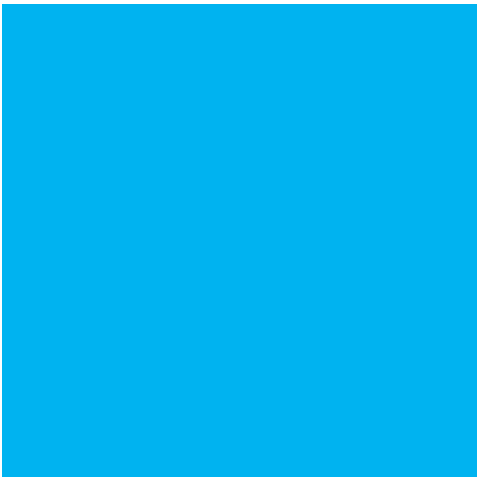
connector

mounting

electronic

cooler
systems

calculation
/ other
products



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