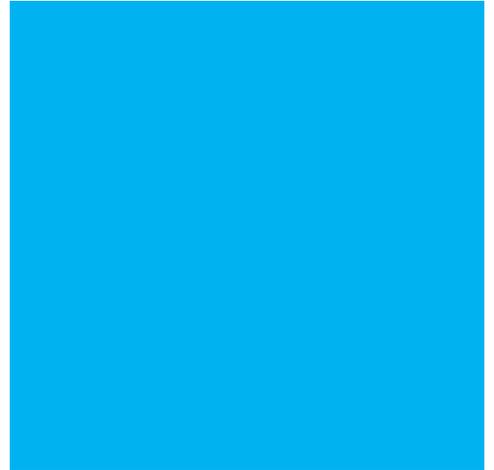


No.1 for  
standard  
heat  
exchangers

  
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

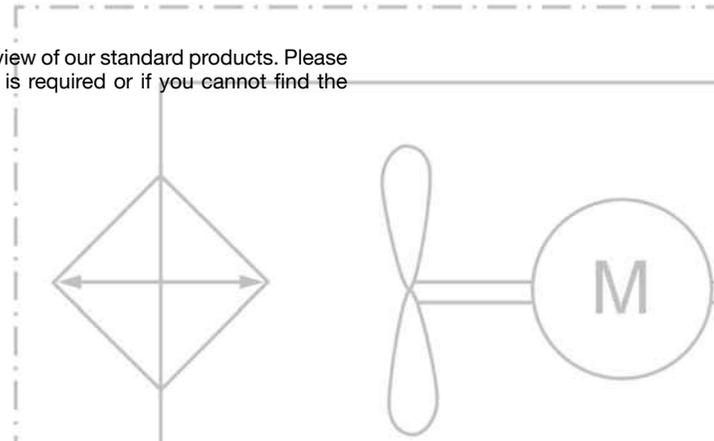
Progress in cooling stands for developments, advances and innovations already working in our customers' mobile and stationary applications, worldwide.

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.

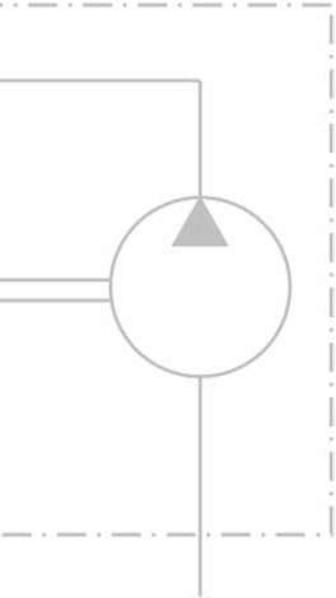
Combinations of cooler systems with tank and filter gain from the flexibility of each asa component.

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.

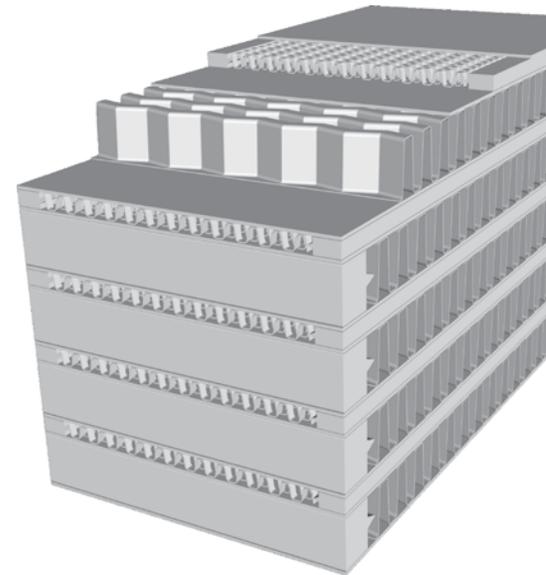
According to the cooler size, we offer various options and accessories to adapt the cooler to the customer's requirements. The benefits achieved, are not only for the application itself, but also for our customers' end product as an advantage against their competitors.

## 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).



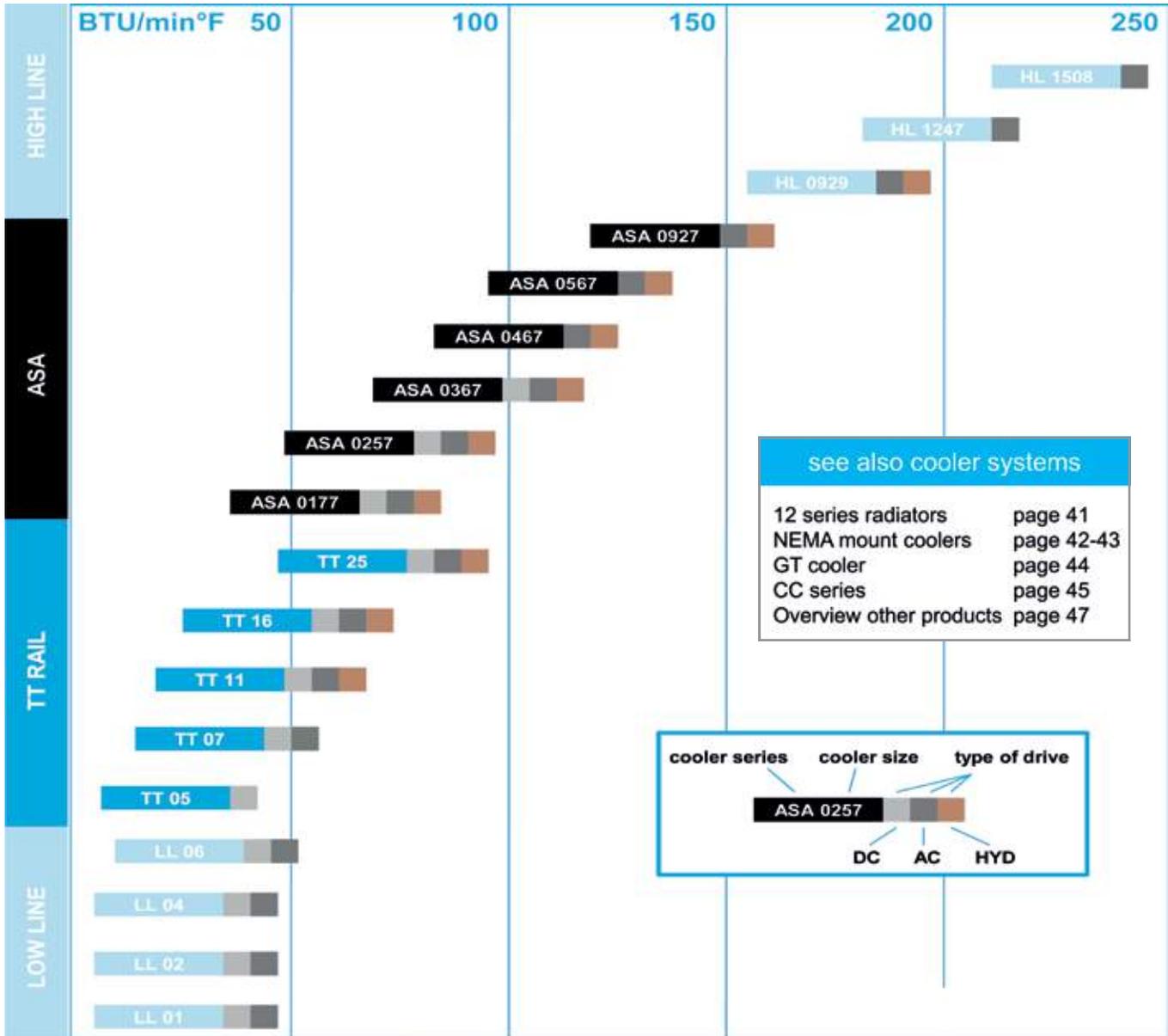
## Customized 4 you with 2 systems (page 32/33)

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.

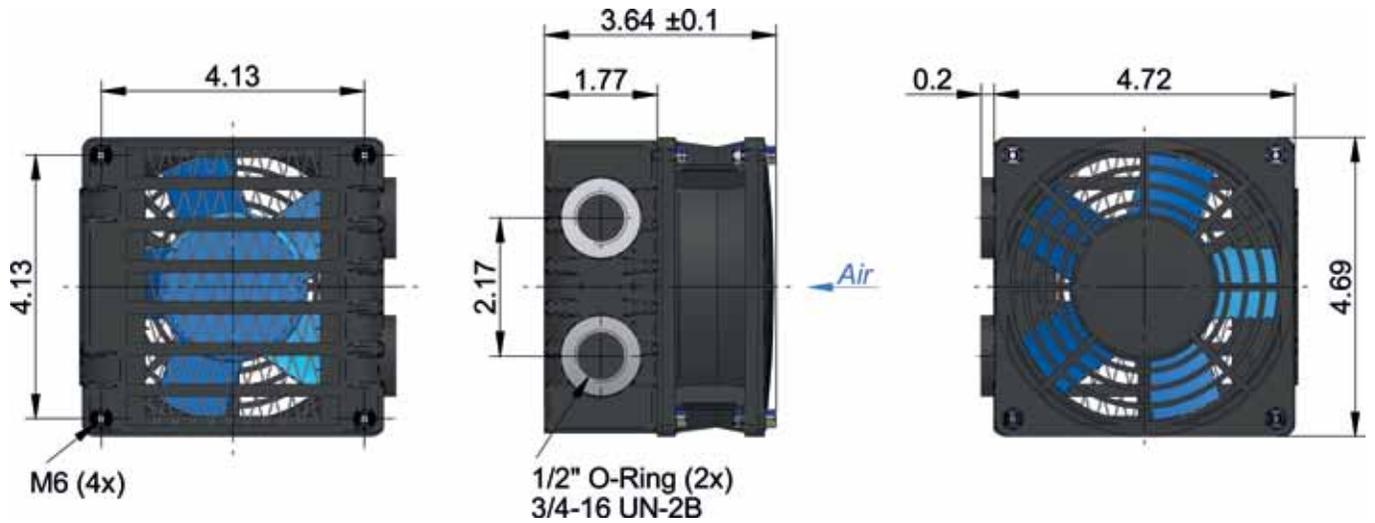


# our standard range



# Oil / Air Cooler LL 01 LowLine

12V / 24V DC

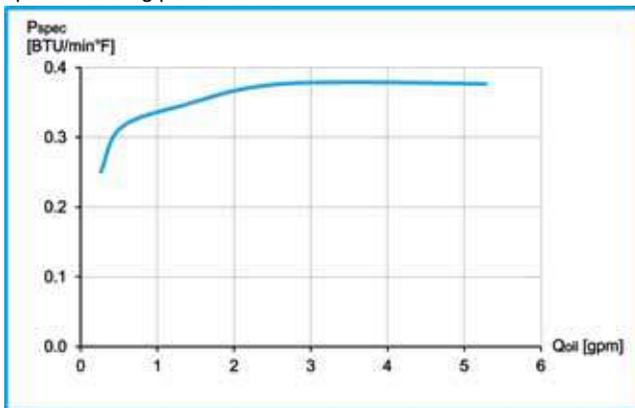


## Technical Data

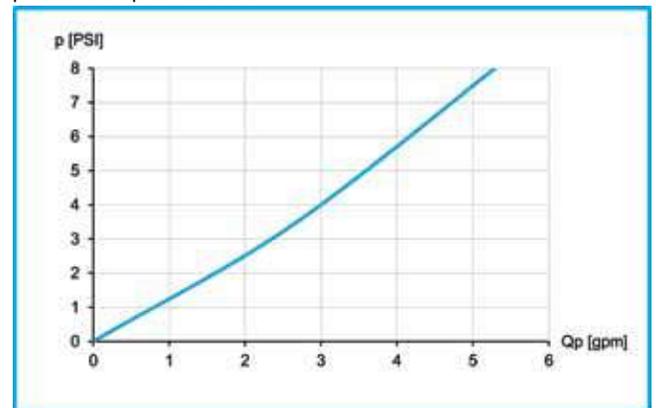
order number	description	motor power	current	protection level	air flow	noise level	weight
		[HP]	[A]		[SCFM]	[dB (A)]	[lbs]
ASA0013UD01	LL 01 12V DC	0.04	0.30	IP 20	70.6	44	3.08
ASA0013UD02	LL 01 24V DC	0.04	0.15	IP 20	70.6	44	3.08

## 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)

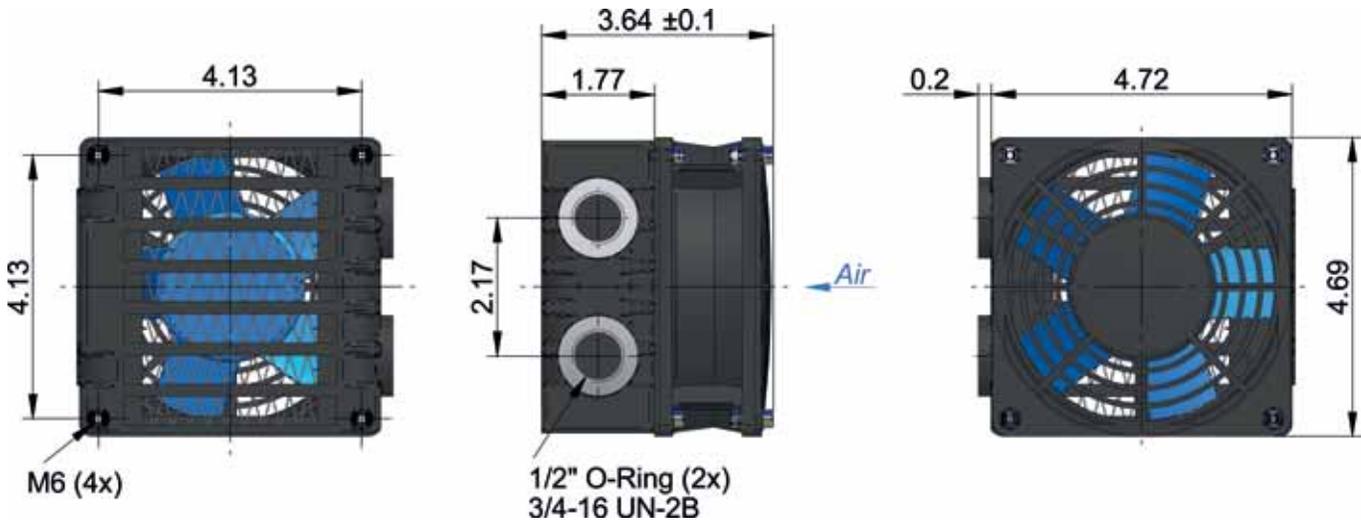
Please contact us for further options and assistance. Please read manual before installation!



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# Oil / Air Cooler LL 01 LowLine

115V / 60Hz

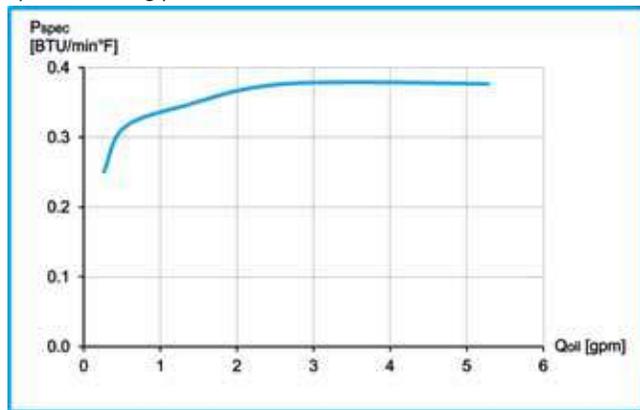


## Technical Data

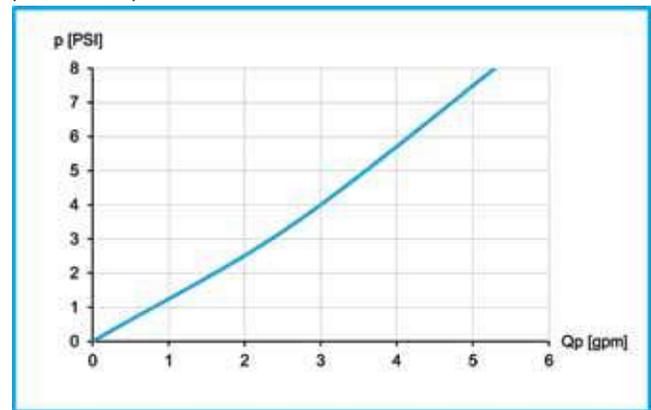
order number	description	motor power	current	protection level	air flow	noise level	weight
		[HP]	[A]		[SCFM]	[dB (A)]	[lbs]
ASA0013UE03	LL 01 115V AC	0.03	0.12	IP 20	70.6	41	3.08

## 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)

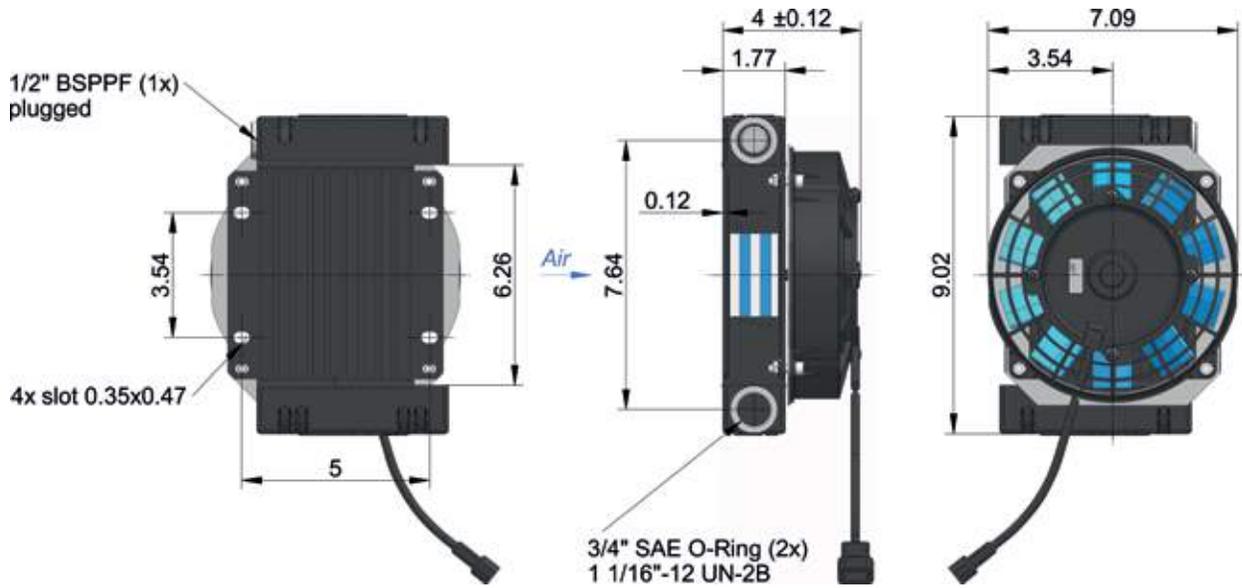
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# Oil / Air Cooler LL 02 LowLine

12V / 24V DC

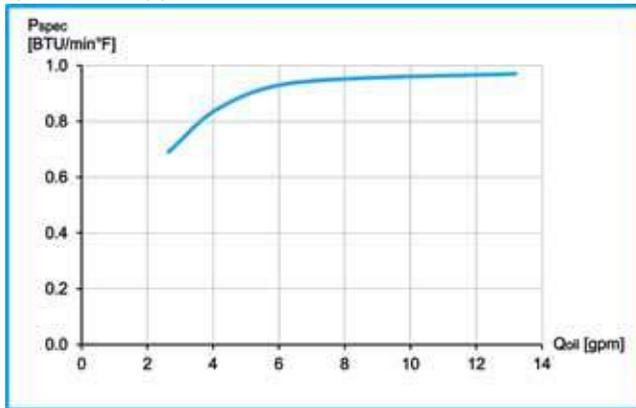


## Technical Data

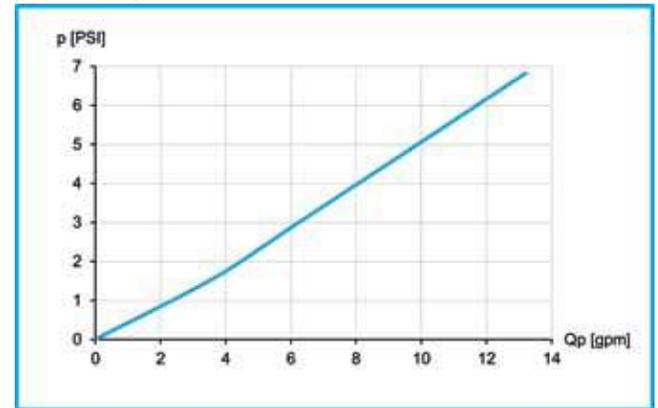
order number	description	motor power	current	protection level	air flow	noise level	weight
		[HP]	[A]		[SCFM]	[dB (A)]	[lbs]
ASA0023UD01	LL 02 12V DC	0.1	5.4	IP 68	247.1	73	5.94
ASA0023UD02	LL 02 24V DC	0.1	2.7	IP 68	247.1	73	5.94

## 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)
--------------------	---------------------------------

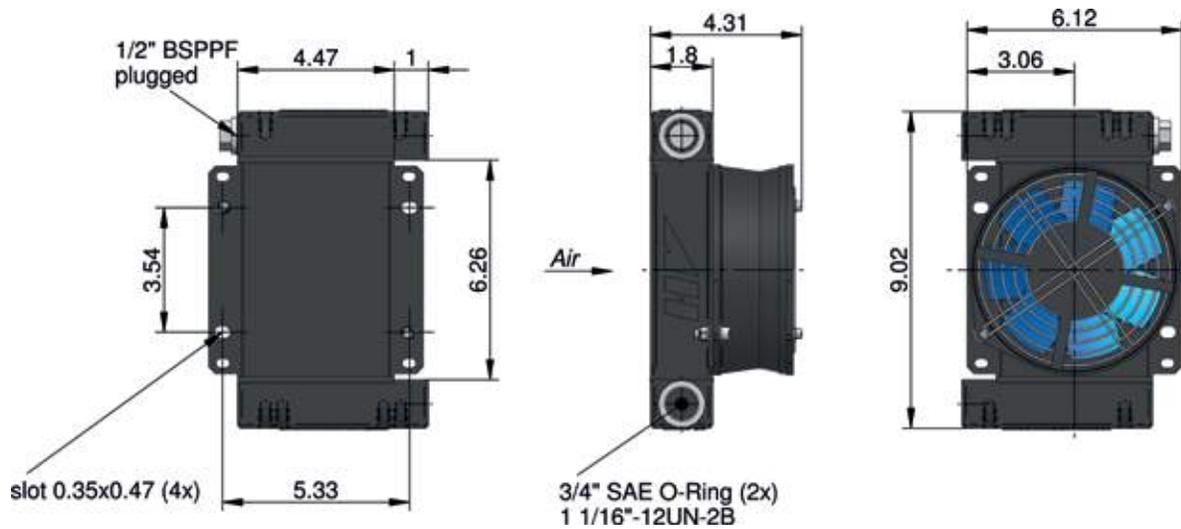


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# Oil / Air Cooler TT Series

115V 60 Hz

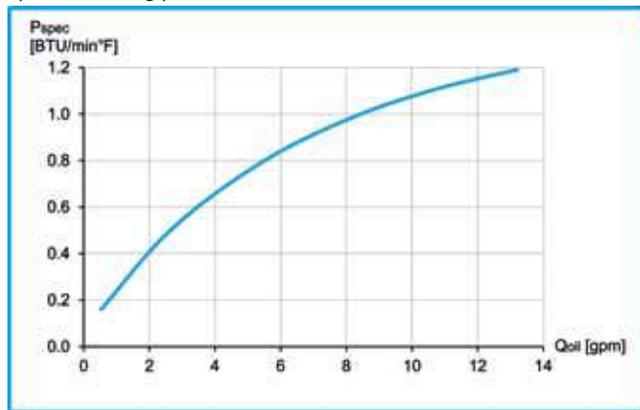


## Technical Data

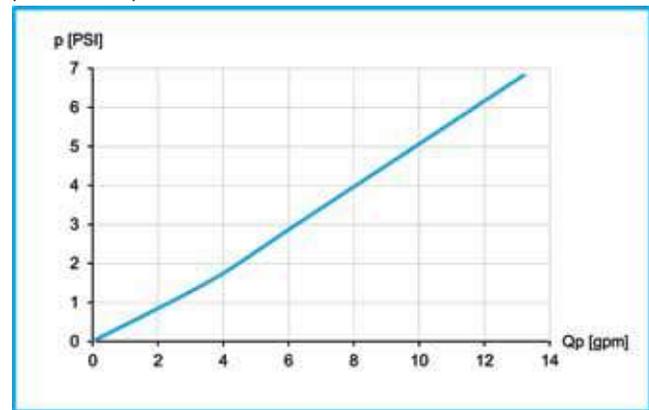
order number	description	motor power [HP]	current [A]	protection level	air flow [SCFM]	noise level [dB (A)]	weight [lbs]
ASA0023UE04	LL 02 115V AC	0.05	0.33	IP 20	70.6	54	5.5

## 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)
--------------------	---------------------------------

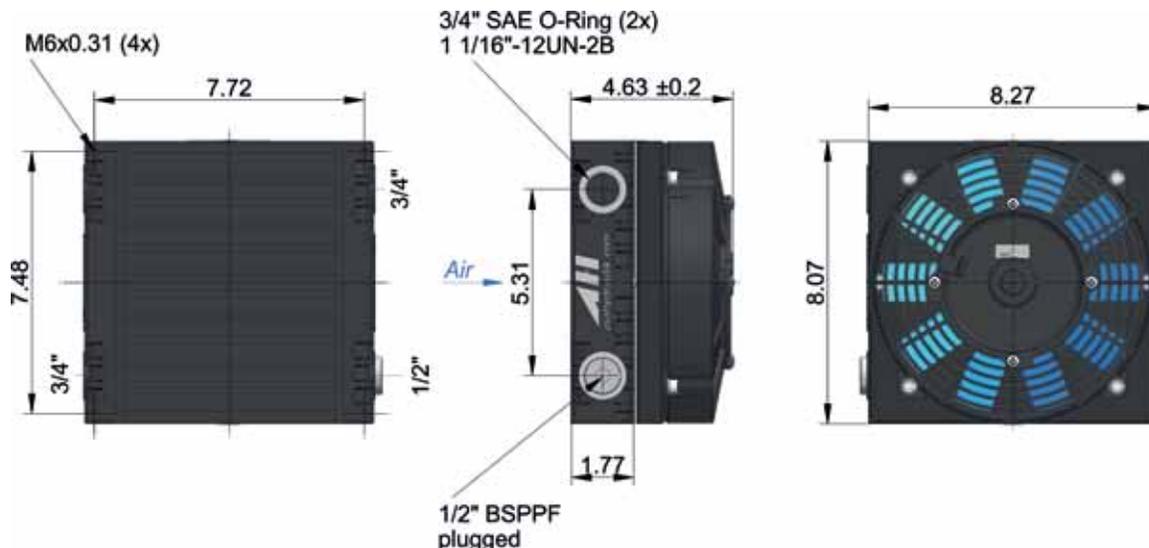
Please contact us for further options and assistance. Please read manual before installation!



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# Oil / Air Cooler LL 04 LowLine

12V /24V DC

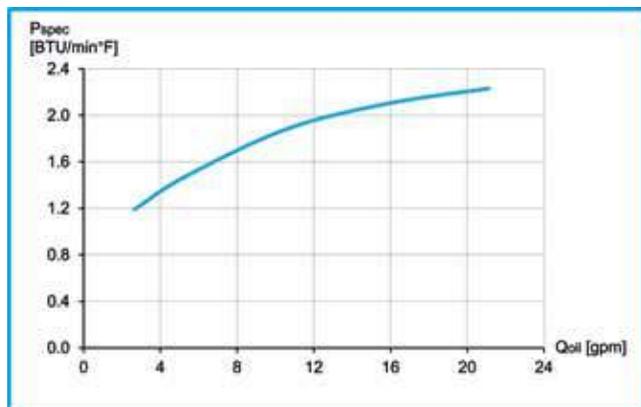


## Technical Data

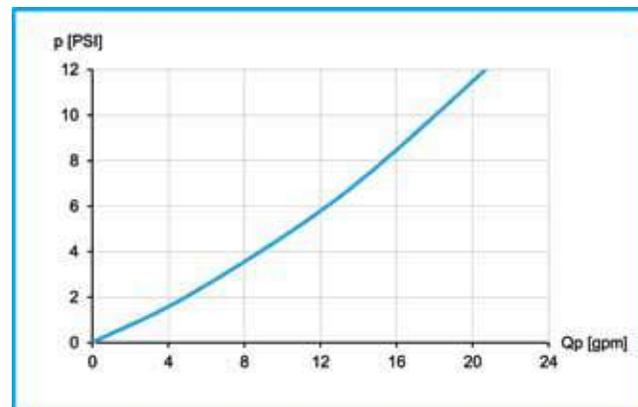
order number	description	motor power	current	protection level	air flow	noise level	weight
		[HP]	[A]		[SCFM]	[dB (A)]	[lbs]
ASA0043UD01	LL 04 12V DC	0.1	5.4	IP 68	282.4	68	8.8
ASA0043UD02	LL 04 24V DC	0.1	2.7	IP 68	282.4	68	8.8

## 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)



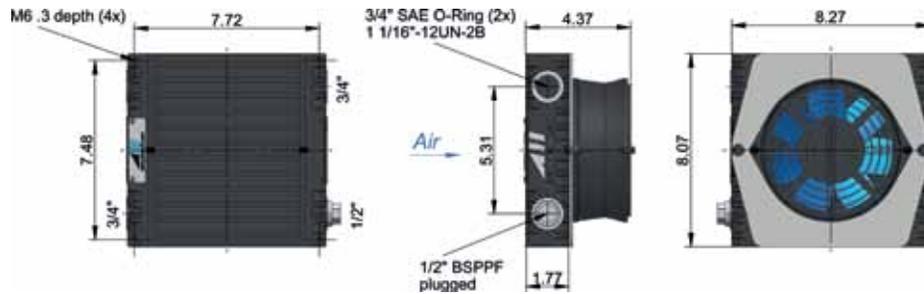
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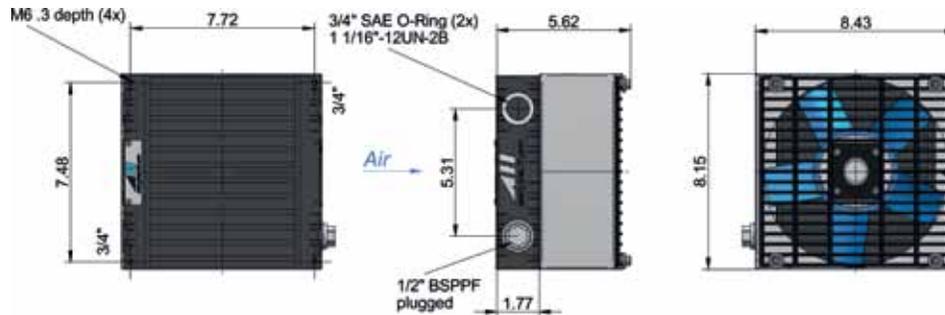
# Oil / Air Cooler LL 04 LowLine

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

## ASA0043UI03:



## ASA0043UI04:

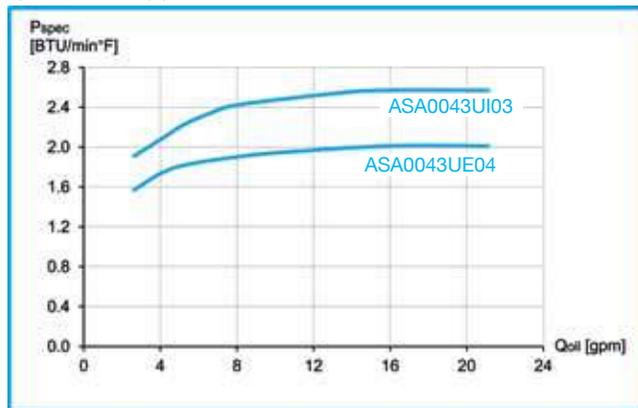


## Technical Data

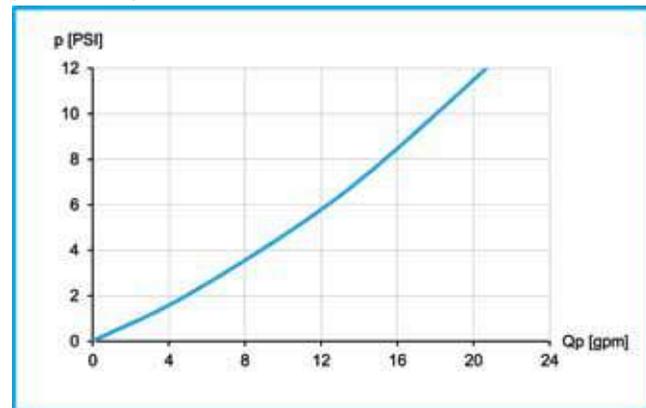
order number	description	motor power [HP]	current [A]	protection level	air flow [SCFM]	noise level [dB (A)]	weight [lbs]
ASA0043UE04	LL 04 115V 60 Hz AC	0.05	0.33	IP 20	158.85	56	9.46
ASA0043UEI03	LL 04 230/460V 60 Hz AC	0.07	0.15	IP 44	264.75	66	12.98

## 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)
--------------------	---------------------------------

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

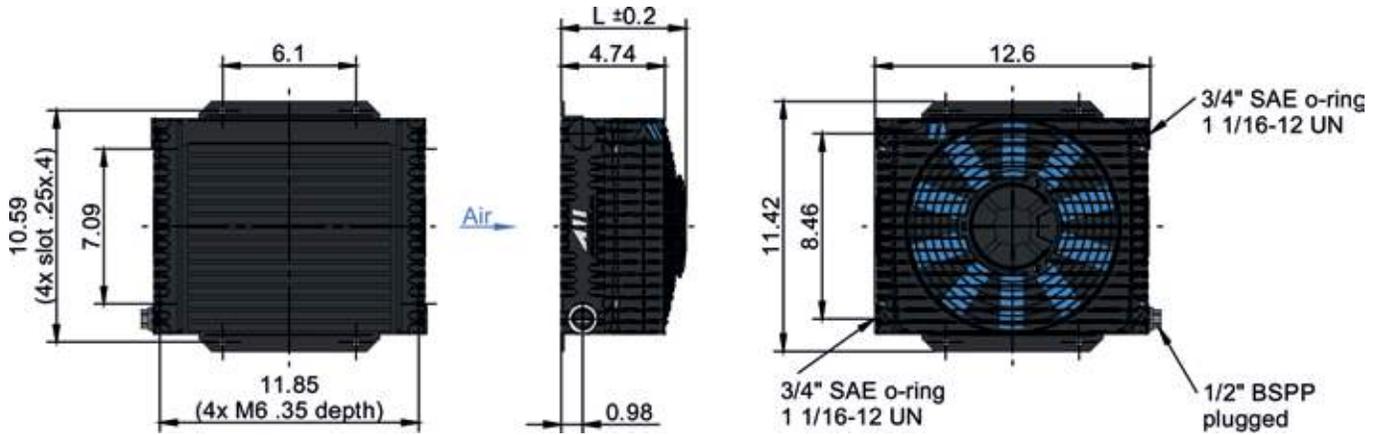


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- group
- overview
- LL 01 DC/AC
- LL 02 DC/AC
- LL 04 DC/AC
- LL 06 DC/AC compact
- TT rail DC
- TT rail AC
- TT rail AC compact
- TT rail HYD
- ASA DC
- ASA AC
- ASA HYD
- HL 0929 AC/HYD
- HL 1247 HL 1508
- connector
- mounting
- electronic
- cooler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

# Oil / Air Cooler LL 06 LowLine

12V / 24V DC

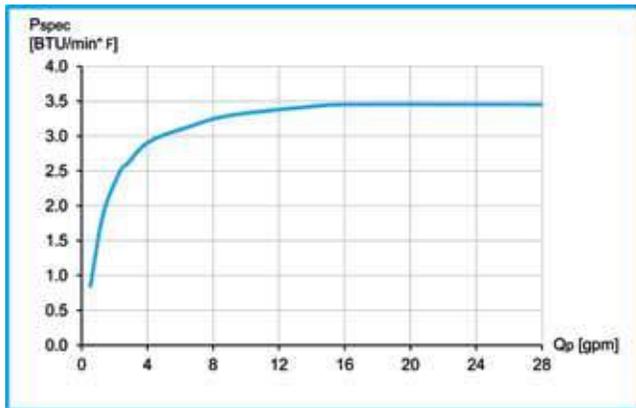


## Technical Data

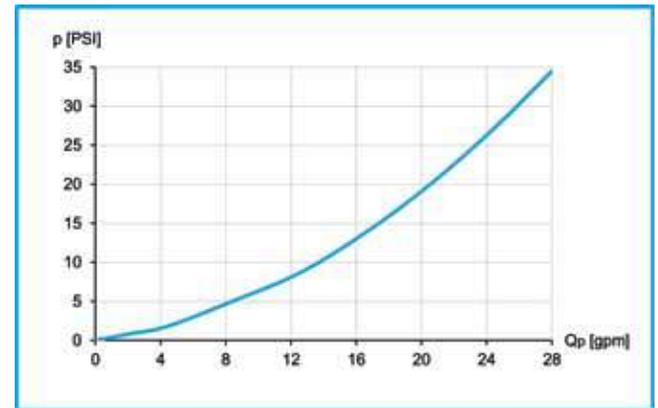
order number	description	motor power	current	protection level	air flow	noise level	L	weight
		[HP]	[A]		[SCFM]	[dB (A)]	[in]	[lbs]
ASATT06UD03	LL 06 12V DC HP	0.13	7.4	IP 68	510	74	6.14	13.3
ASATT06UD04	LL 06 24V DC HP	0.13	3.7	IP 68	510	74	6.14	13.2

## 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)

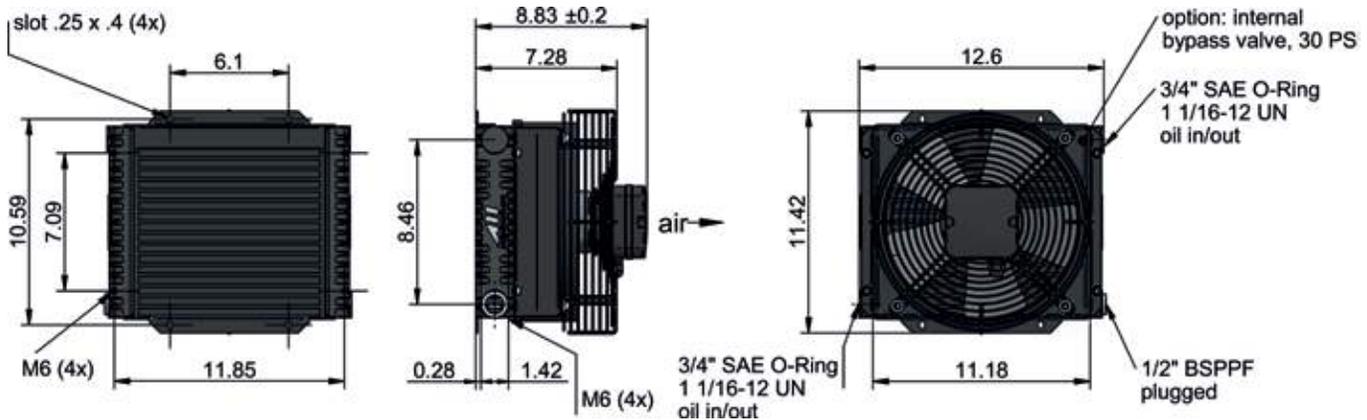


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# Oil / Air Cooler LL 06 LowLine

115 V 60 Hz AC compact

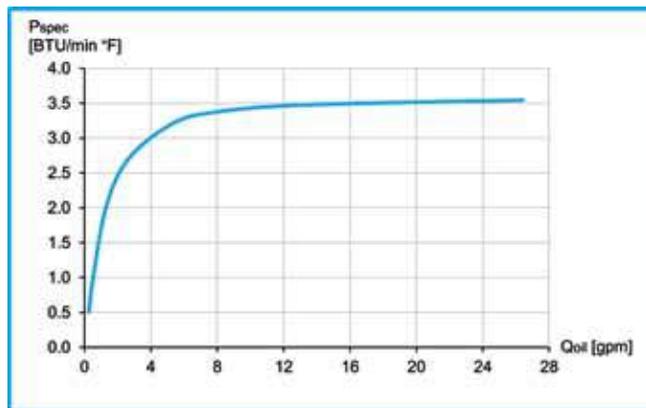


## Technical Data

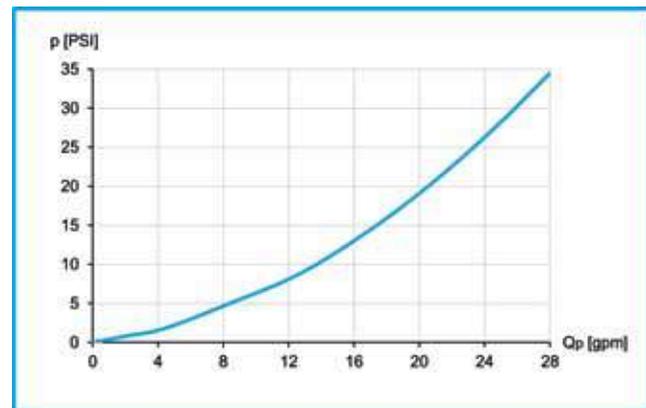
order number	description	motor power	current	protection level	air flow	noise level	weight
		[HP]	[A]		[SCFM]	[dB (A)]	[lbs]
ASATT06UC2U	LL 06 115V AC compact	0.16	1.0	IP 44	494	67	7.4

## 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!

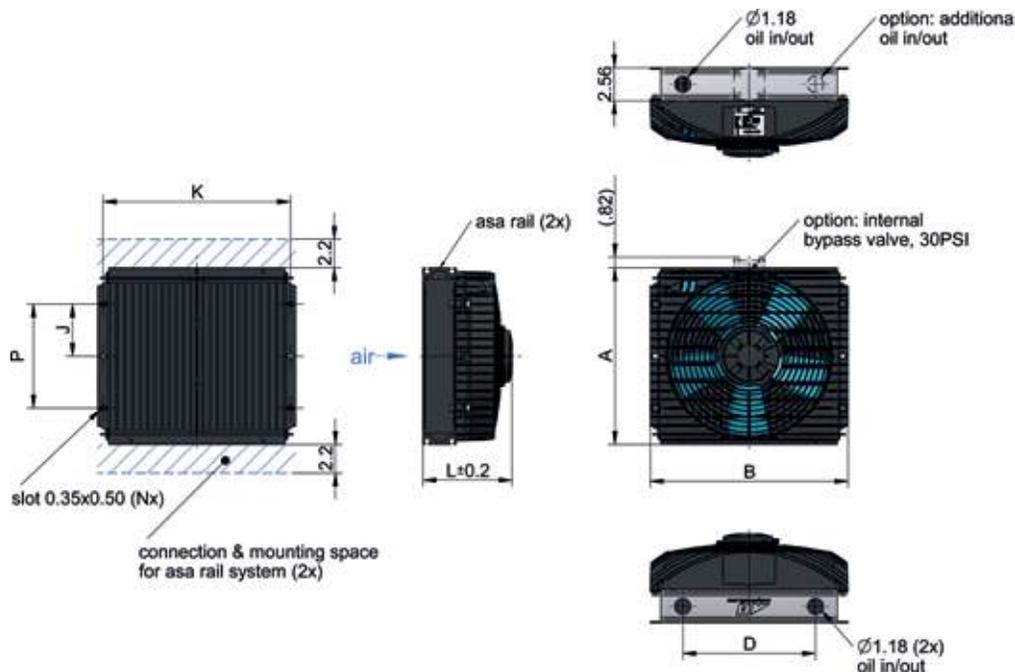


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# Oil / Air Cooler TT Series

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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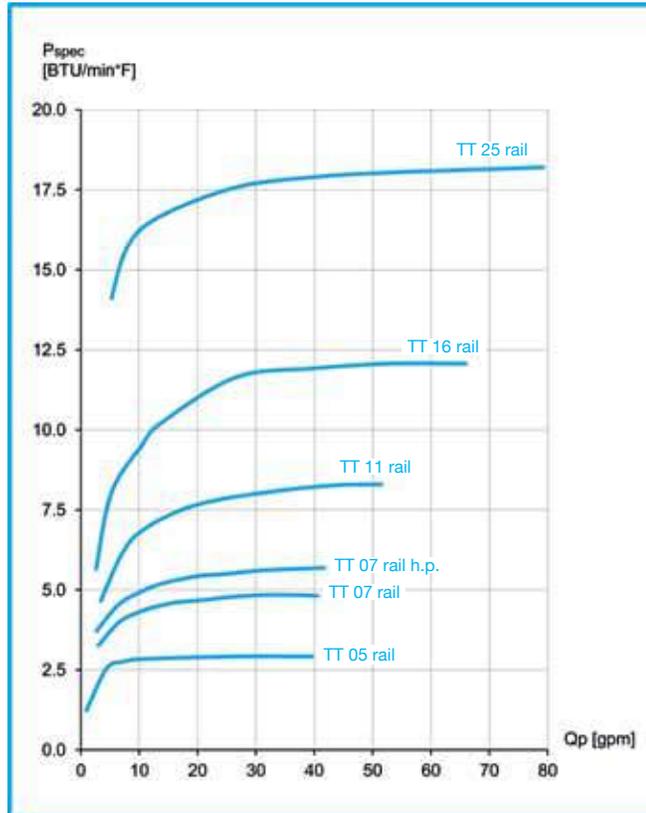
# Oil / Air Cooler TT Series

12V / 24V DC

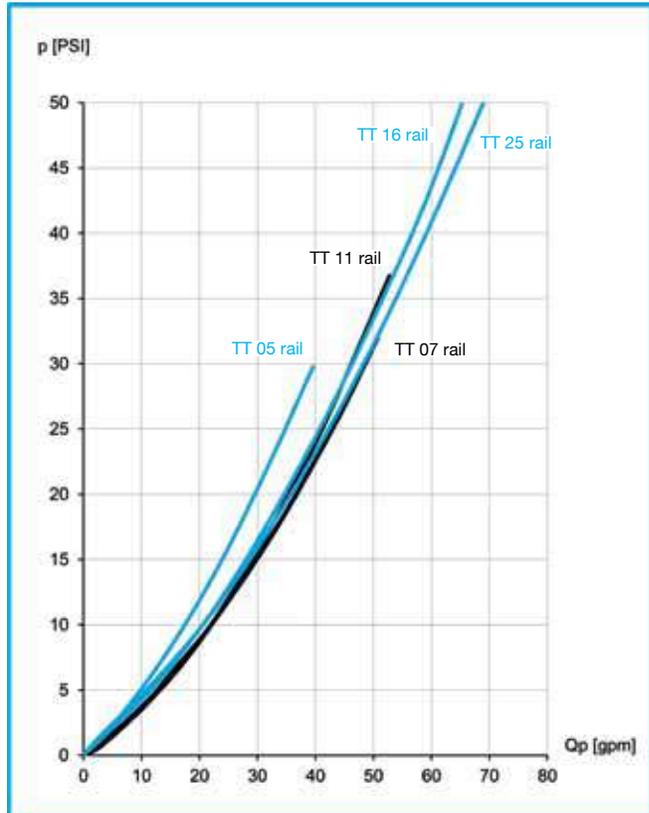
asa rail

## 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)

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!

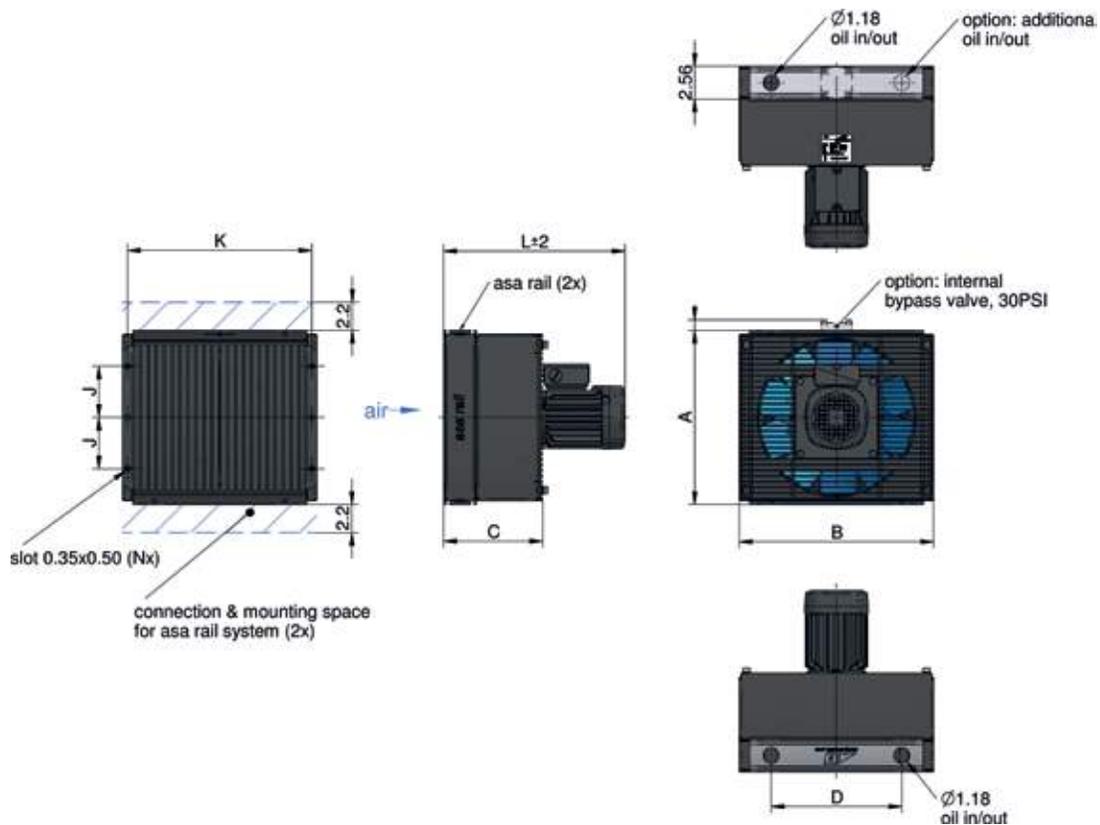


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# Oil / Air Cooler TT Series

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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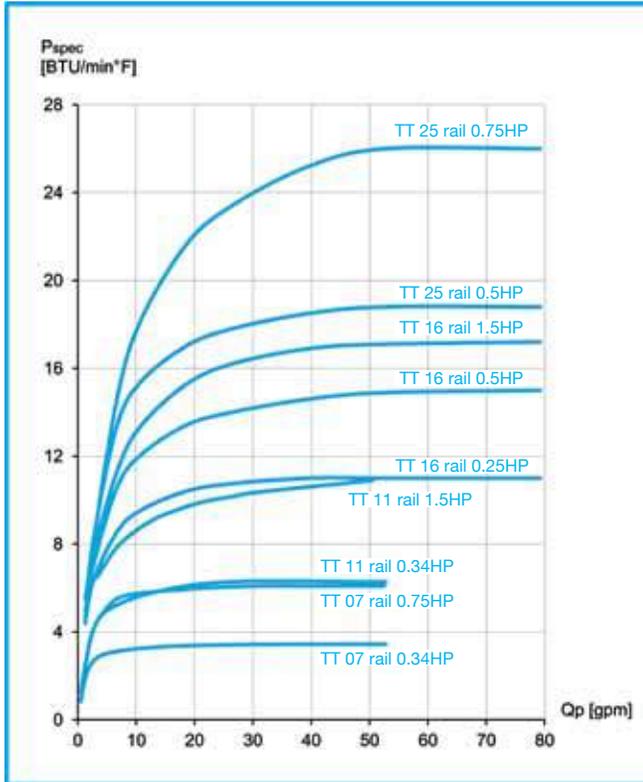
# Oil / Air Cooler TT Series

230/460V, 60Hz AC

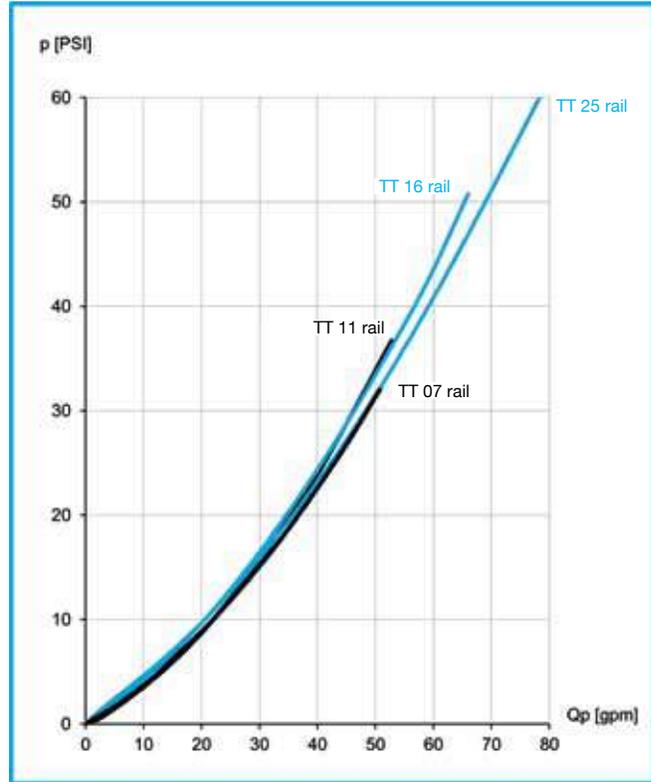
asa rail

## 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)

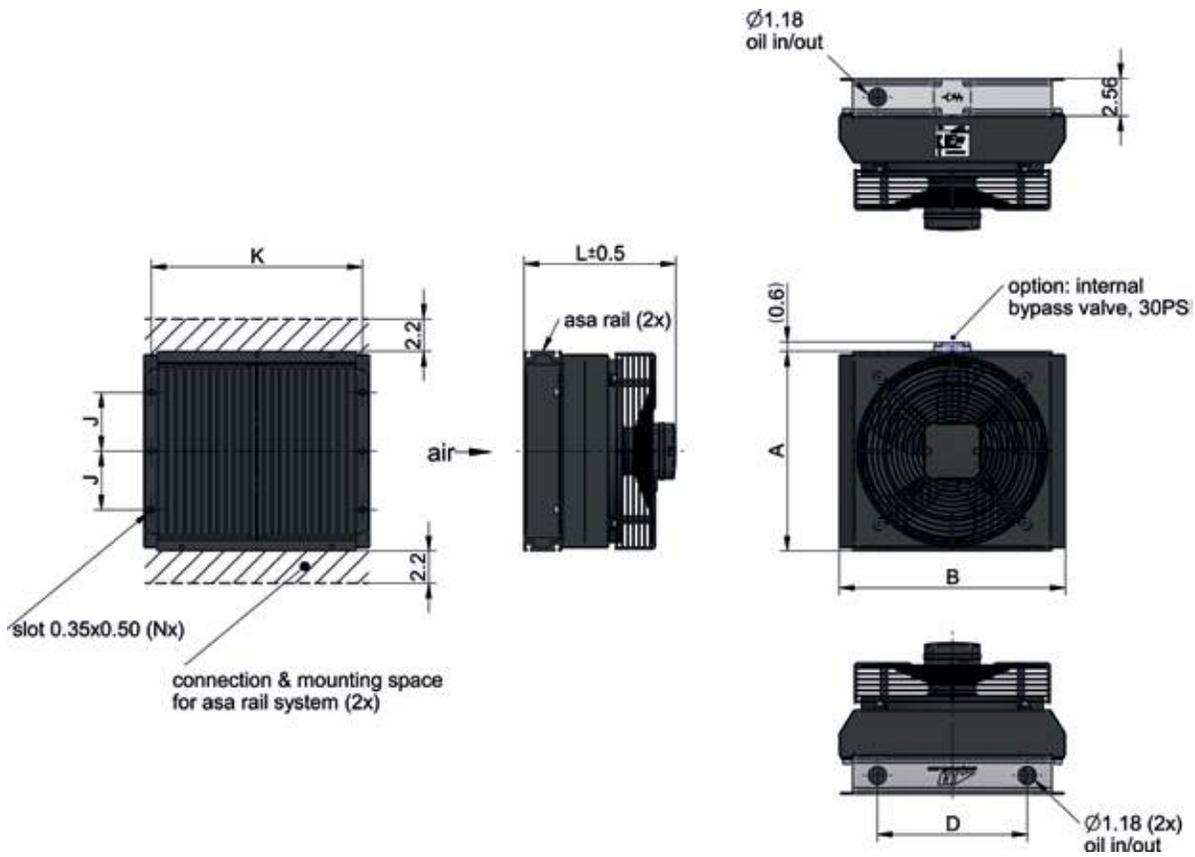
Please contact us for further options and assistance. Please read manual before installation!



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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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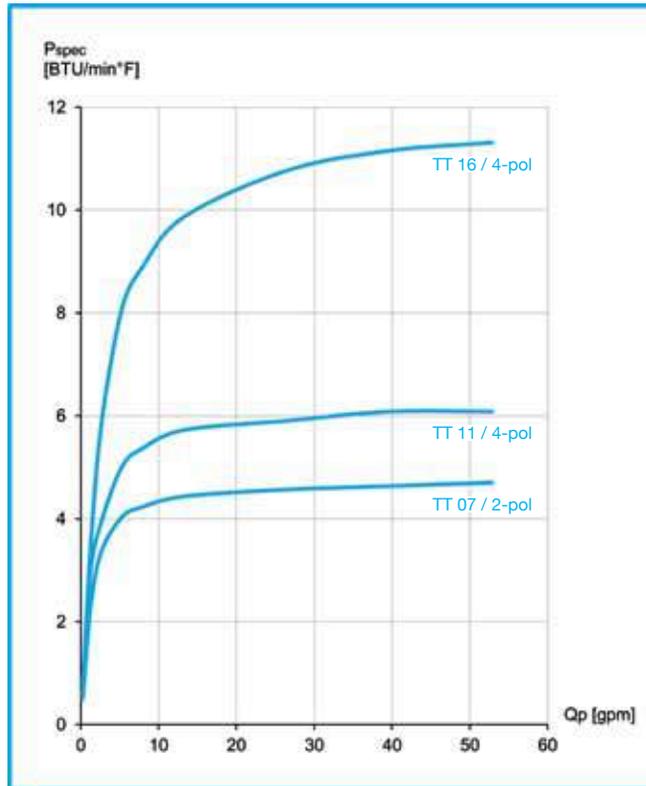
# Oil / Air Cooler TT Series COMPACT

115V, 60Hz AC

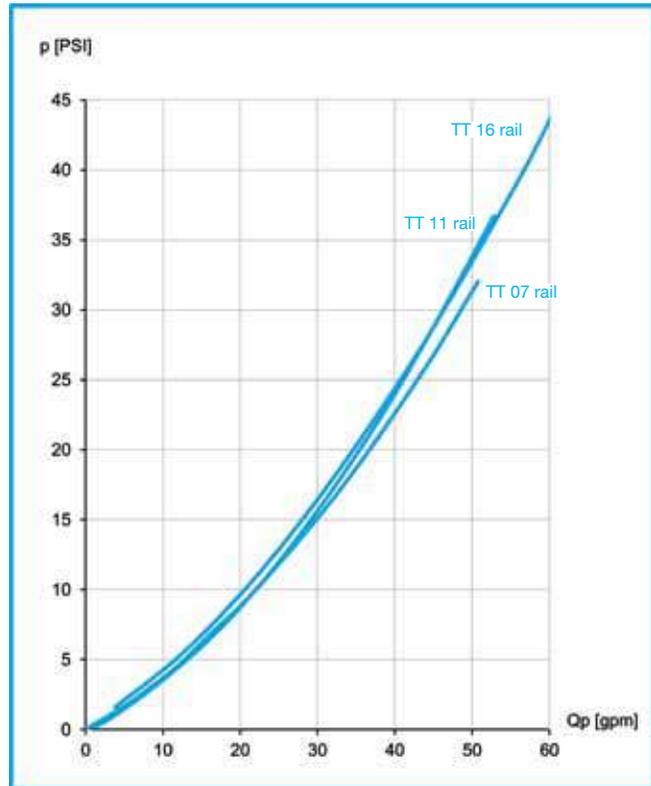
asa rail

## 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!

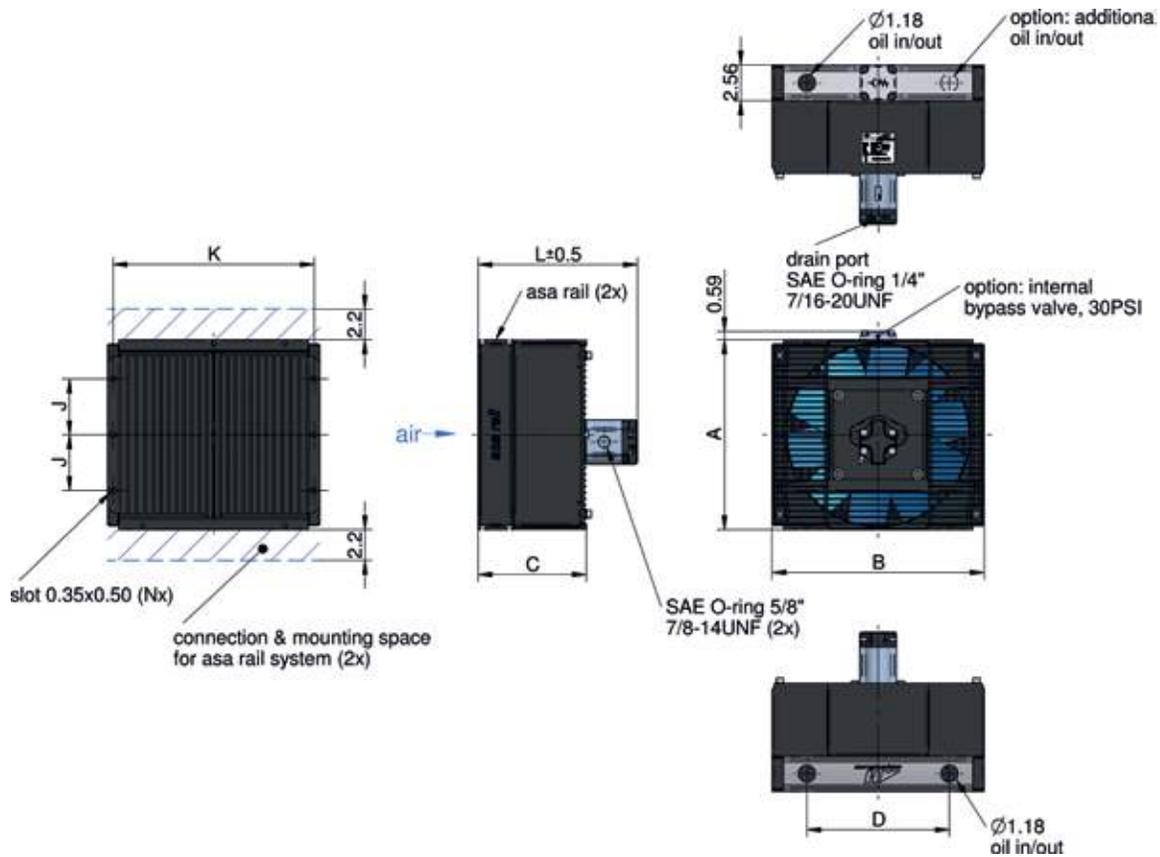


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# Oil / Air Cooler TT Series

0.73 in<sup>3</sup> 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 <sup>3</sup> 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 <sup>3</sup> 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 <sup>3</sup> 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 <sup>3</sup> 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 <sup>3</sup> 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 <sup>3</sup> 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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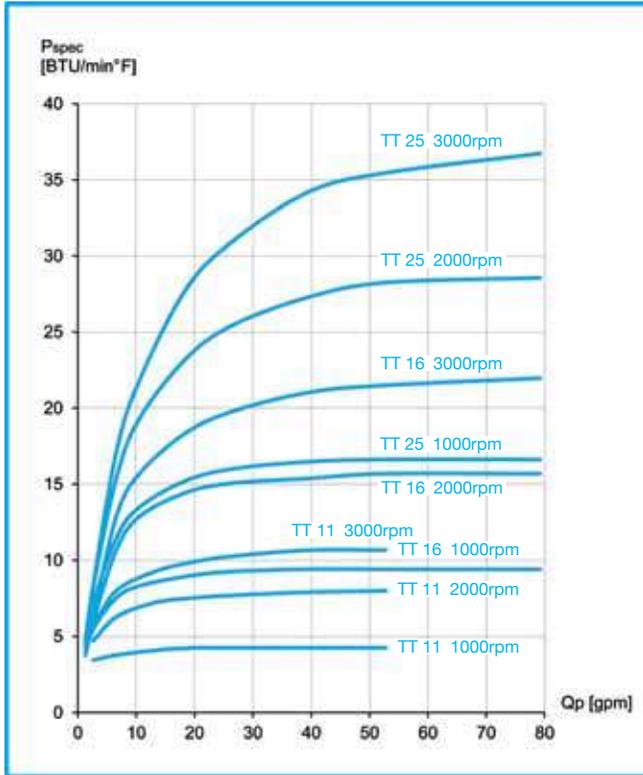
# Oil / Air Cooler TT Series

0.73 in<sup>3</sup> hydraulic drive

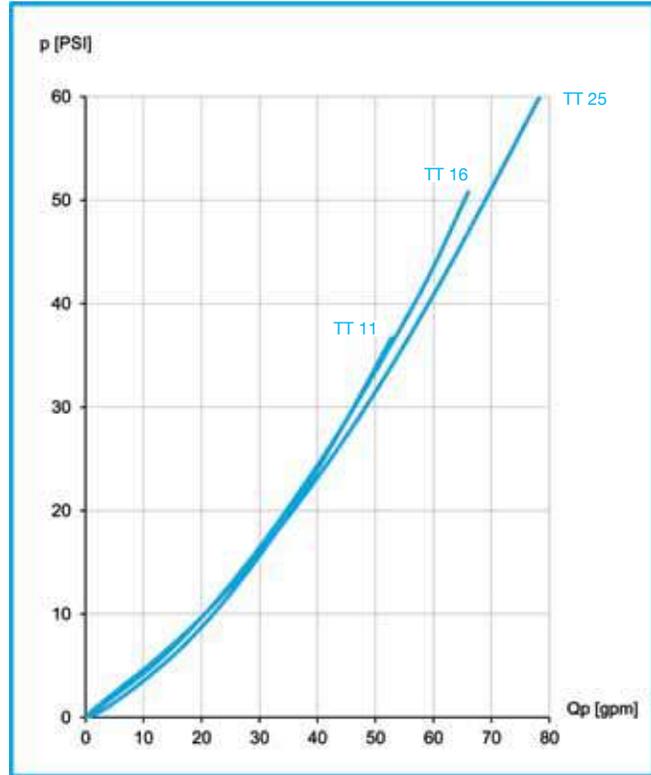
asa rail

## 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!

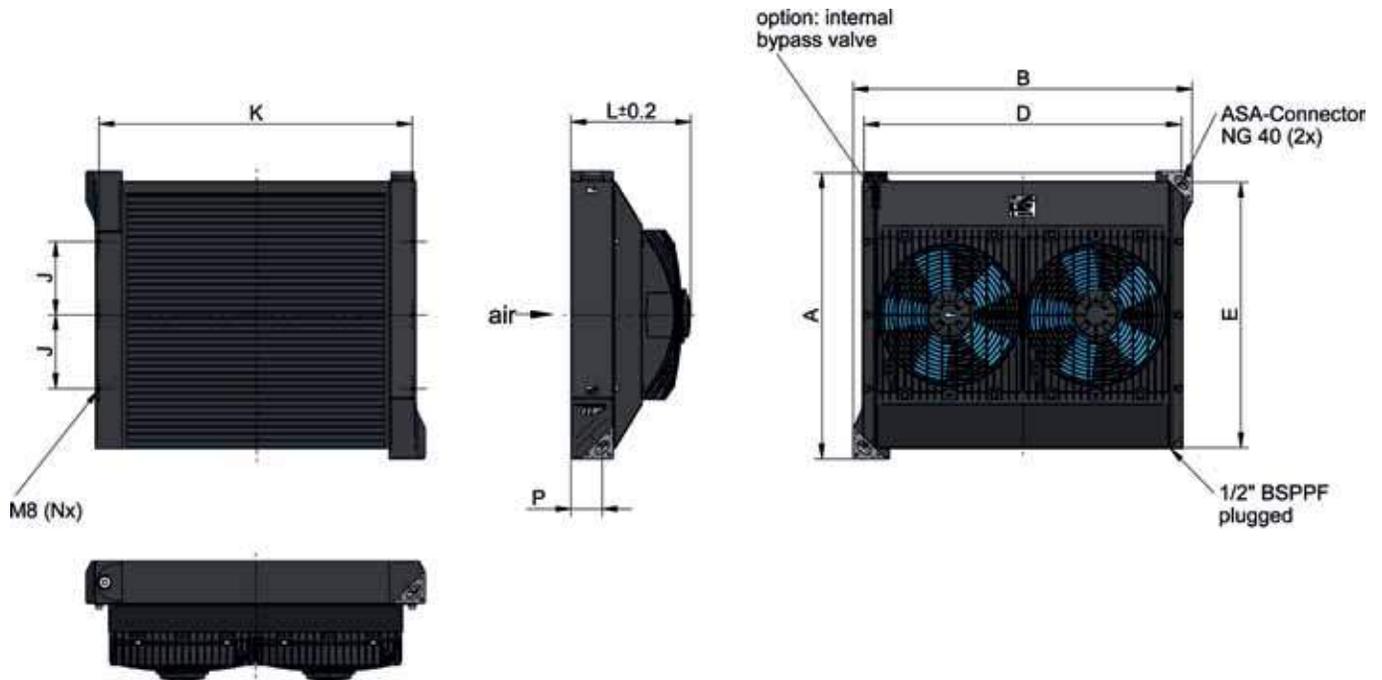


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# Oil / Air Cooler ASA Series

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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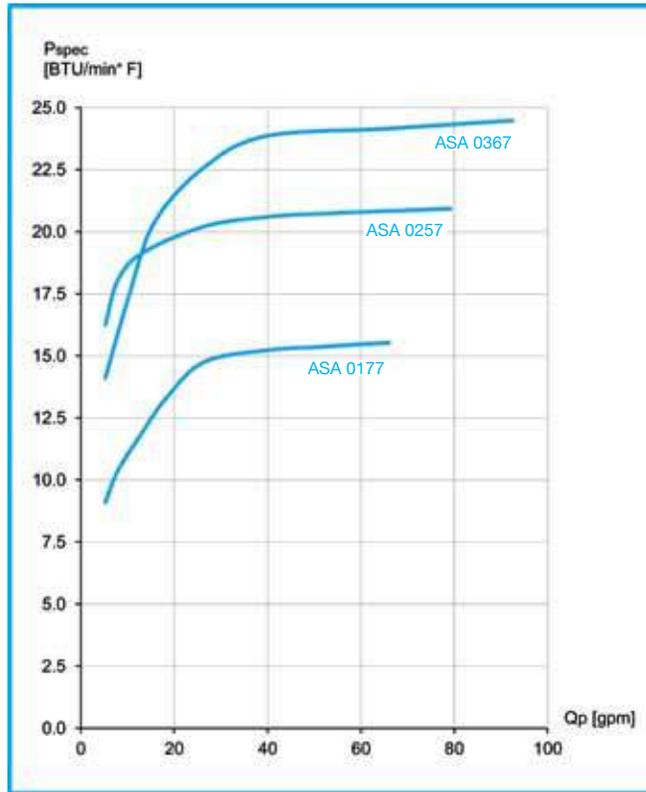
# Oil / Air Cooler ASA Series

12V / 24V DC

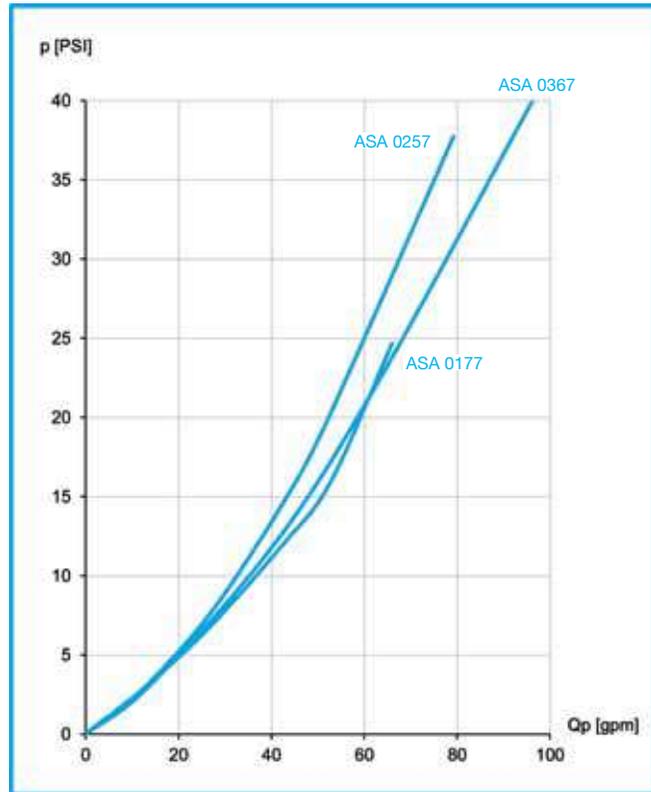
asa uc

## 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!

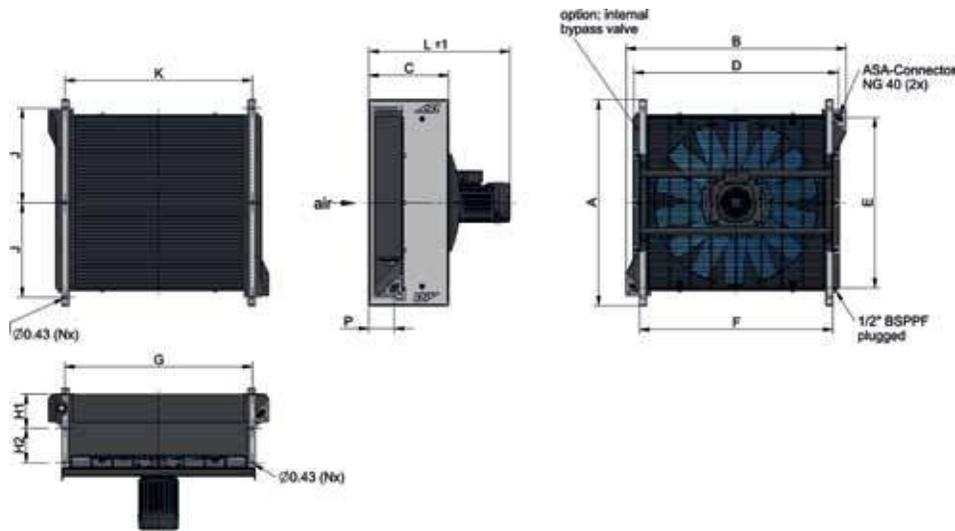


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# Oil / Air Cooler ASA Series

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]	[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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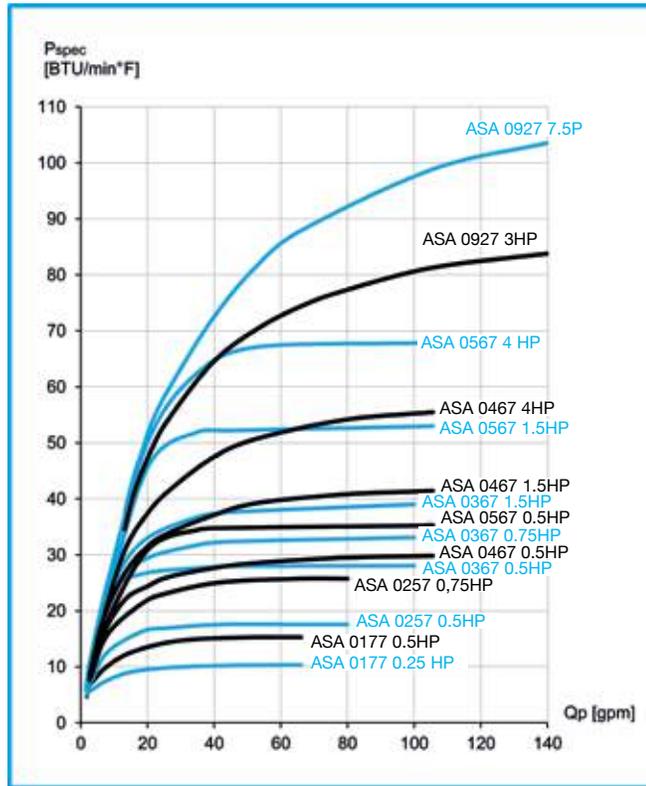
# Oil / Air Cooler ASA Series

230/460V 60Hz AC

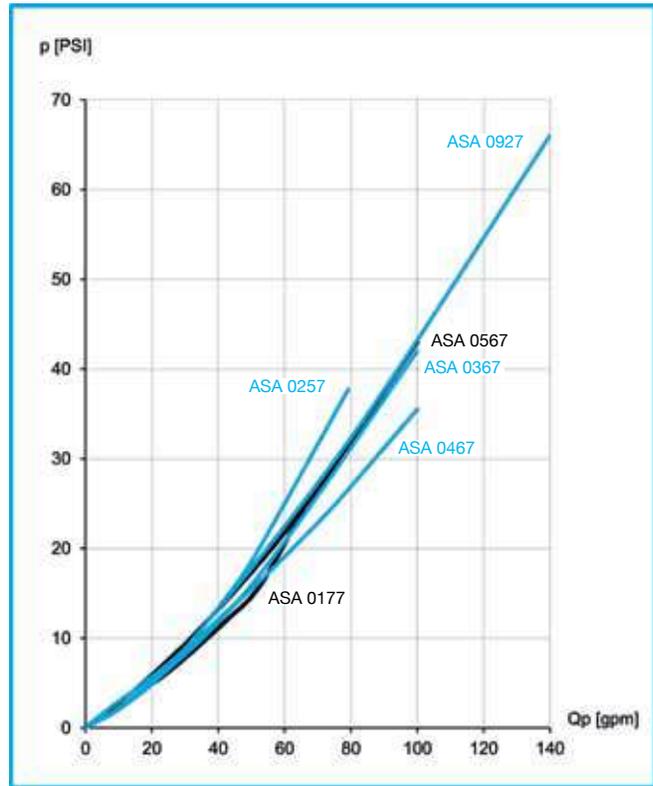
asa uc

## 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)

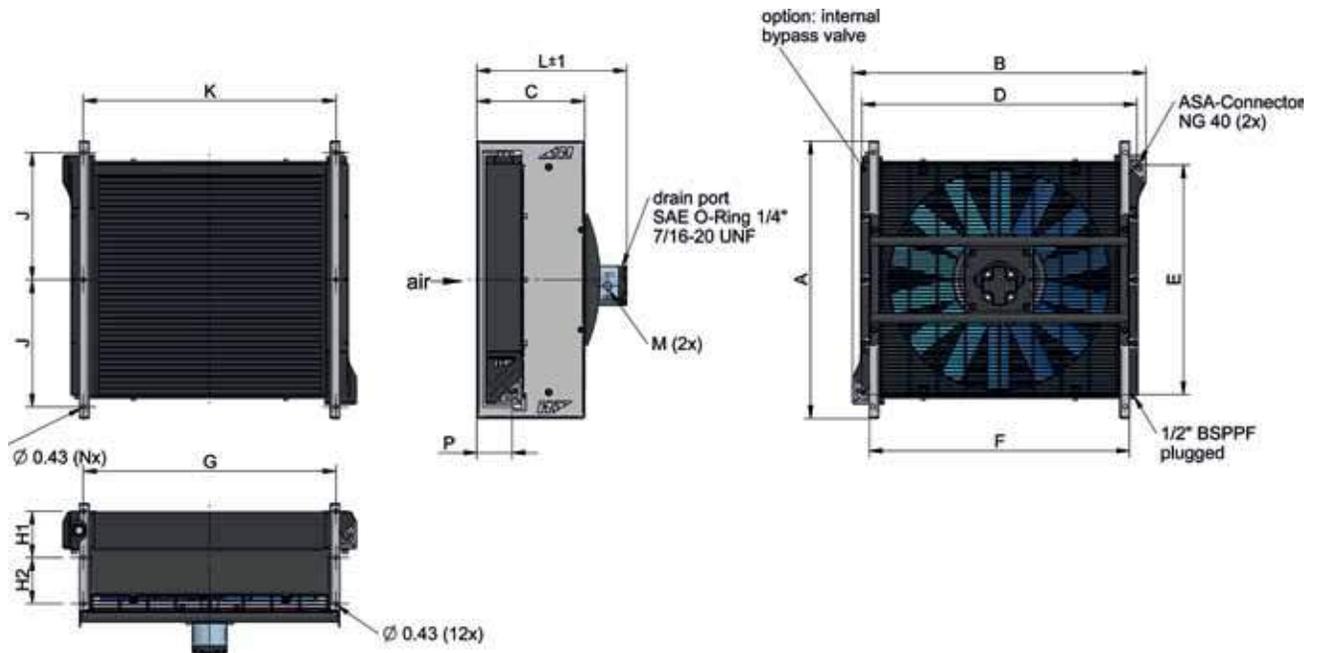
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# Oil / Air Cooler ASA Series

with 0.73 or 0.67 in<sup>3</sup> 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]	[lbs]						
ASA0177AH12	ASA 0177 hyd. motor 0.73in <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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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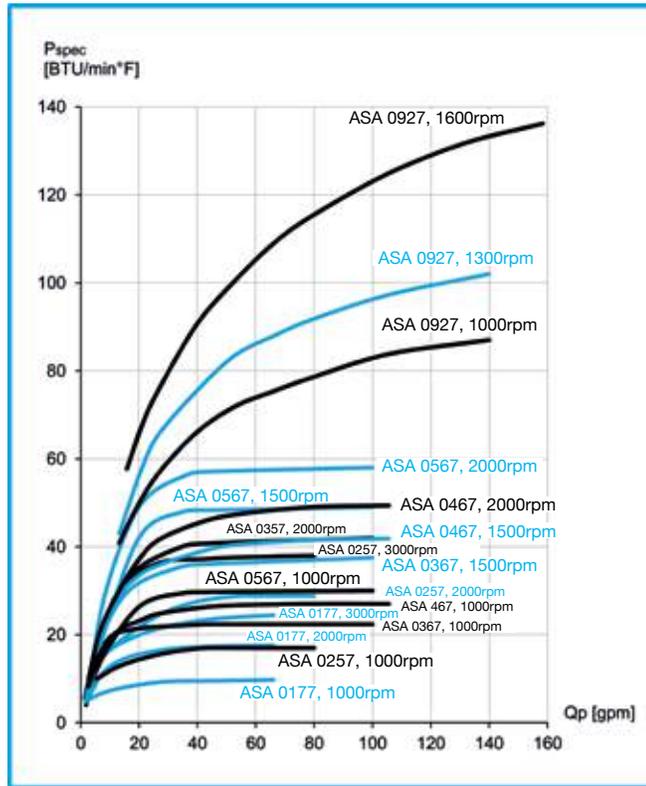
# Oil / Air Cooler ASA Series

with 0.73 or 0.67 in<sup>3</sup> hydraulic drive

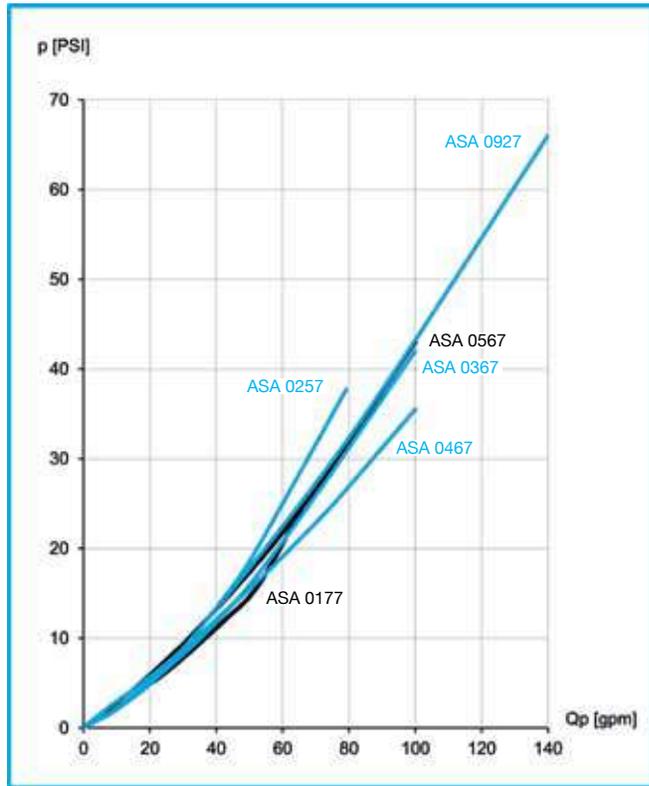
asa uc

## 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)

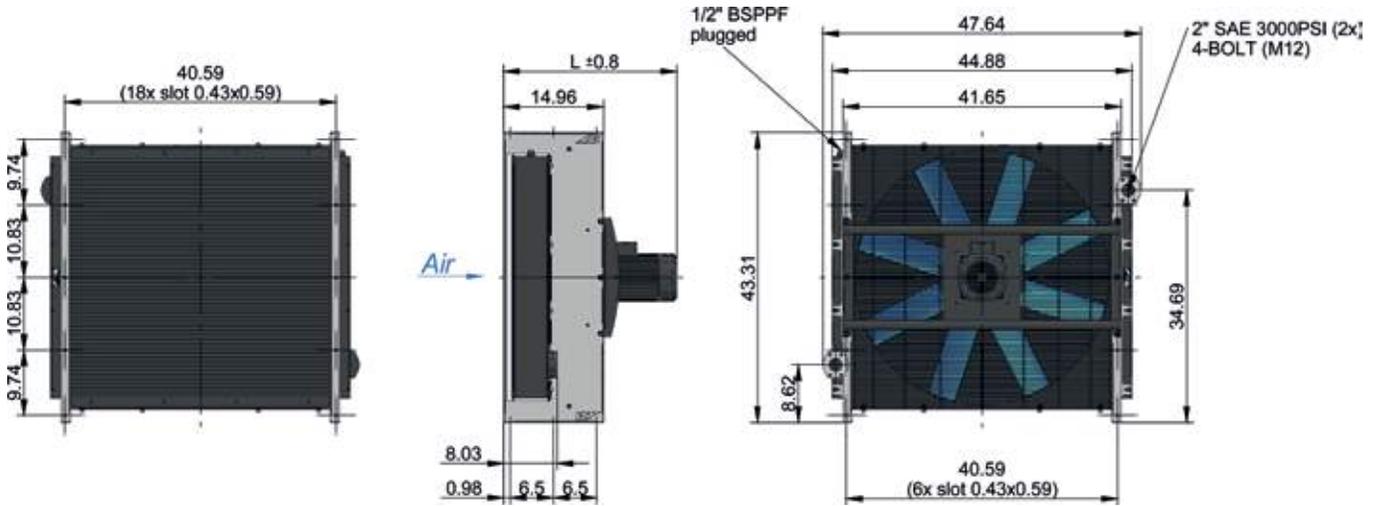
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# Oil / Air Cooler HL 0929 HighLine

230/460V 60Hz AC

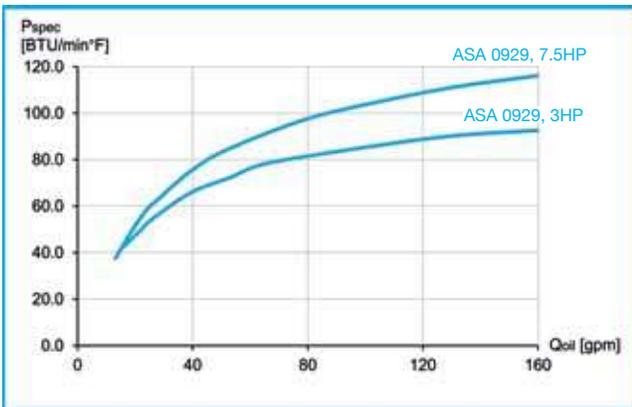


## Technical Data

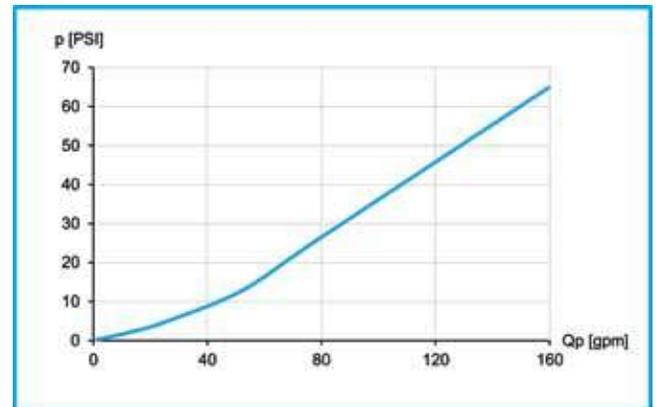
order number	description	current	motor power	protection level	rotation	air flow	noise level	weight
		[A]	[HP]		[rpm]	[SCFM]	[dB (A)]	[lbs]
ASA0929SA6C	ASA 0929 3HP AC	4.8	3	IP 55	1200	8500	91	384.1
ASA0929SA6F	ASA 0929 7.5HP AC	11	7.5	IP 55	1175	11450	94	468.2

## 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)

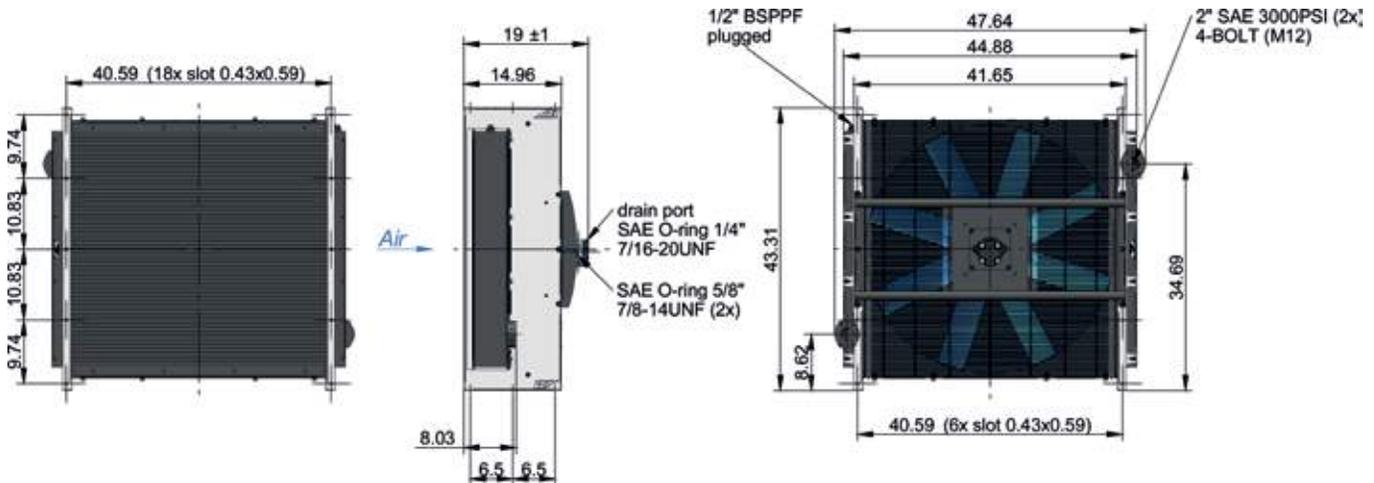


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# Oil / Air Cooler HL 0929 HighLine

with 0.67 in<sup>3</sup> hydraulic drive

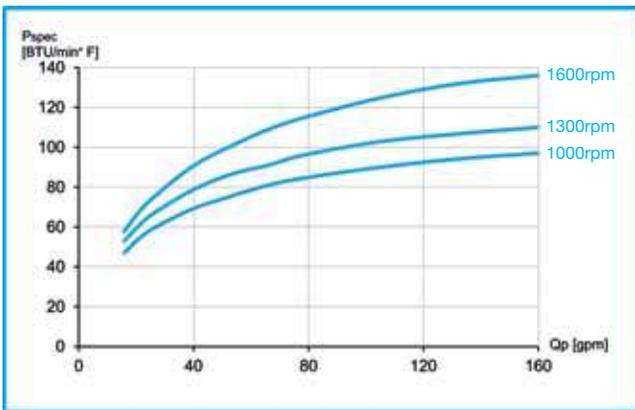


## Technical Data

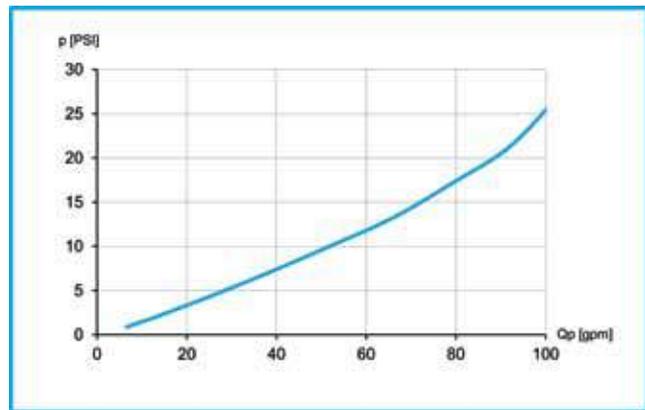
order number	description	motor power	oil pressure	oil flow	rotation	air flow	noise level	weight
		[HP]	[PSI]	[gpm]	[rpm]	[SCFM]	[dB (A)]	[lbs]
ASA0929SH11	ASA 0929 hyd. motor 0.67 in <sup>3</sup>	1.63	1020	3.1	1000	7695.4	88	341
		3.54	1700	4.0	1300	9884	92	
		6.46	2520	4.9	1600	11260.7	97	

## 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)

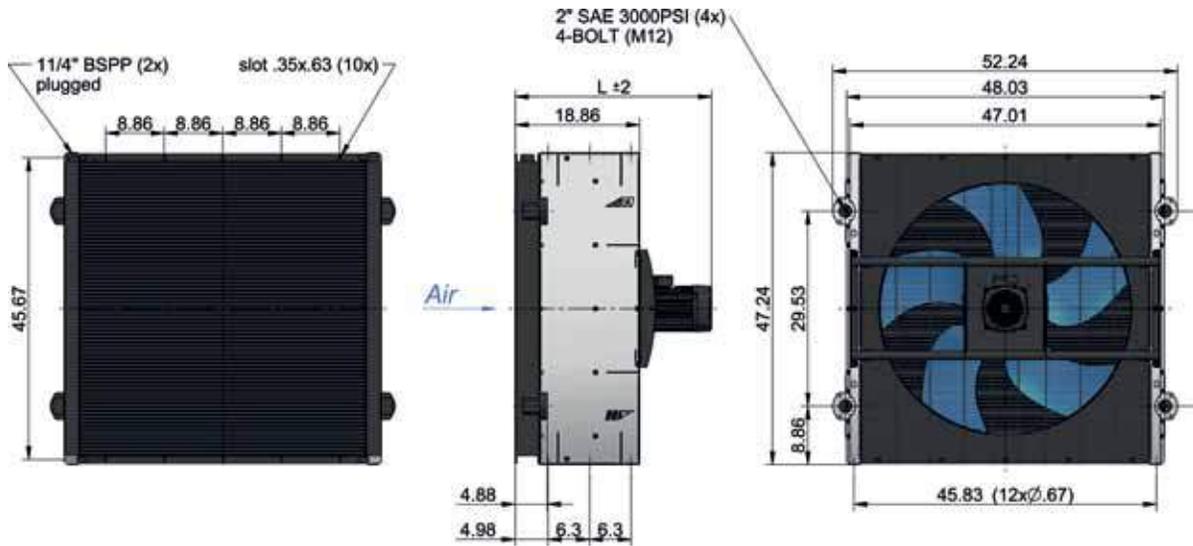


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# Oil / Air Cooler HL 1247 HighLine

230/460V 60Hz AC

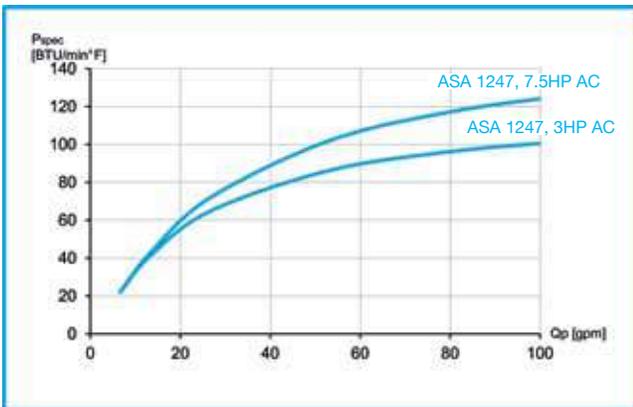


## Technical Data

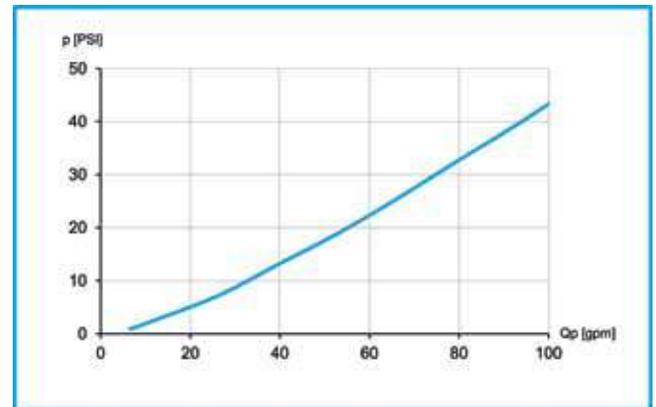
order number	description	current	motor power	protection level	rotation	air flow	noise level	weight
		[A]	[HP]		[rpm]	[SCFM]	[dB (A)]	[lbs]
ASA1247SA6C	ASA 1247 3HP AC	4.8	3	IP 55	1200	11684	88	424.6
ASA1247SA6F	ASA 1247 7.5HP AC	11	7.5	IP 55	1175	13290	95	424.6

## 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)

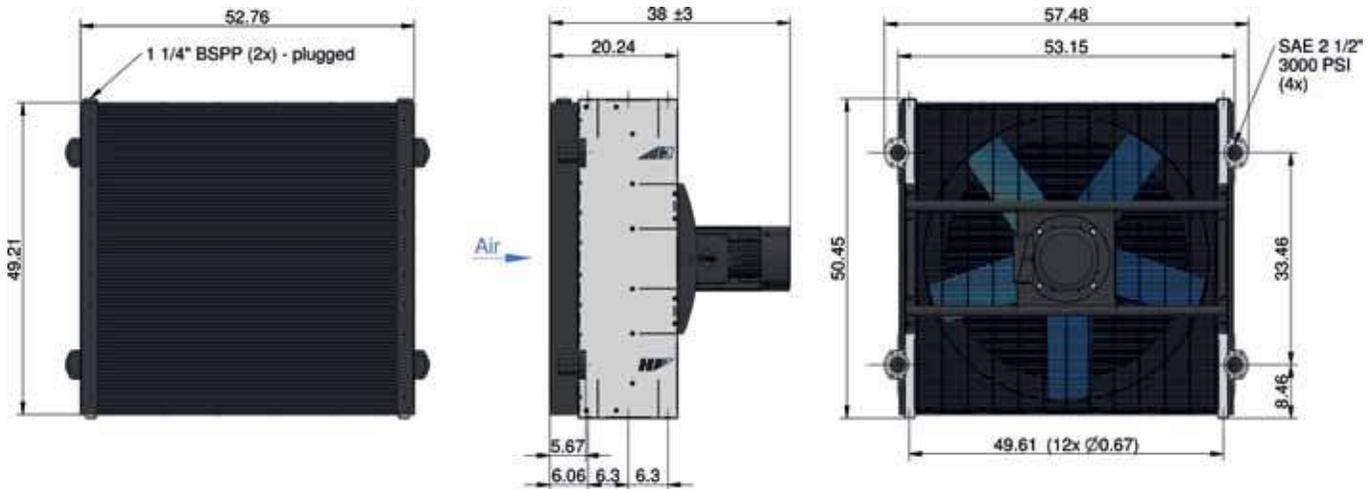


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# Oil / Air Cooler HL 1508 HighLine

230/460V 60Hz AC

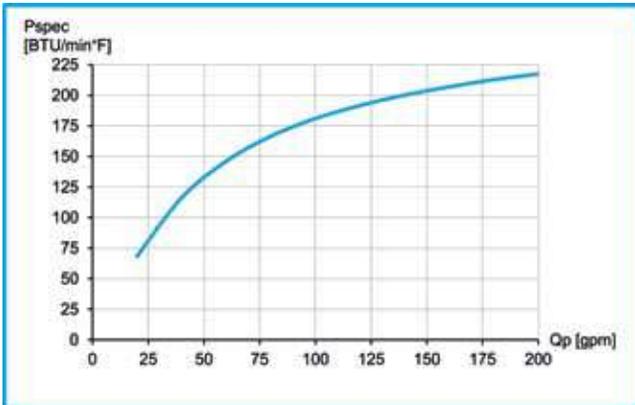


## Technical Data

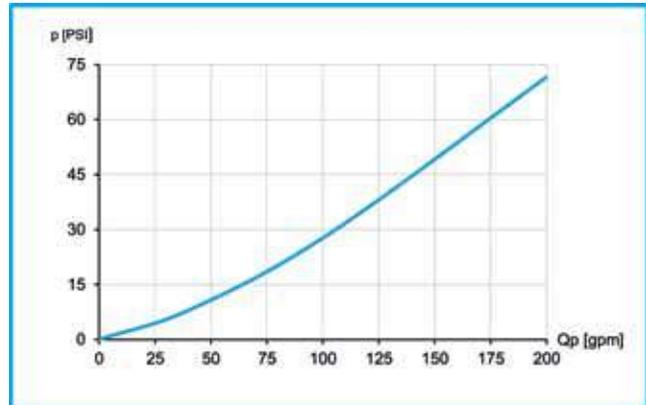
order number	description	power [HP]	current [A]	protection level	revolution [rpm]	air flow [SCFM]	noise level [dB (A)]	weight [lbs]
ASA1508SA6GU	ASA 1508 208-230/460V	12.2	15.5	IP 55	1155	22592	99	639.3

## 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)

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



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# Connector Accessories Rail Series

UN 1<sup>5</sup>/<sub>16</sub>" , UN 1<sup>5</sup>/<sub>8</sub>"



## Description

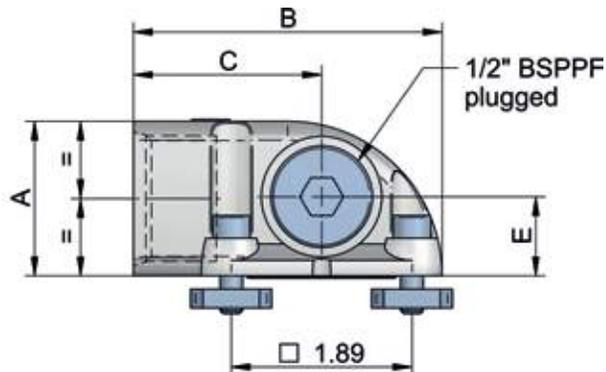
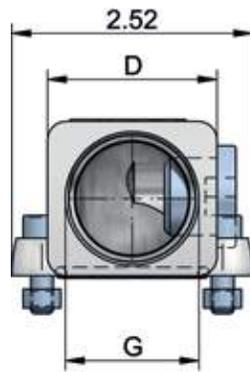
The asa rail system is the first worldwide flexible mounting and connection system for air blast heat exchangers. The flexibility comes from free choice of the port's direction. Each port on the radiator has 3 possibilities. This well designed radiator concept brings another flexibility innovation hit 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.

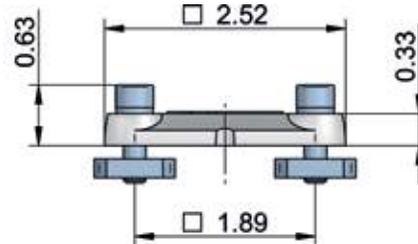
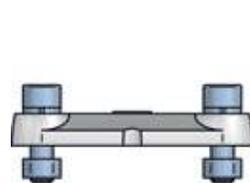


## Technical Data

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 <sup>5</sup> / <sub>16</sub> "	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 <sup>5</sup> / <sub>8</sub> "	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 1<sup>5</sup>/<sub>8</sub>" , UN 1<sup>7</sup>/<sub>8</sub>"

asa uc

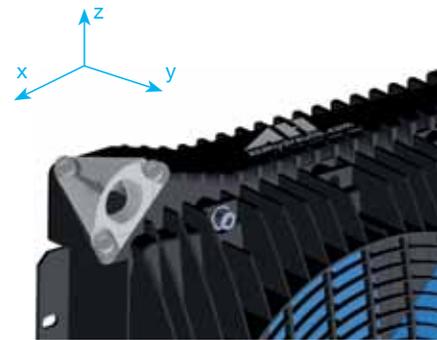


## Description

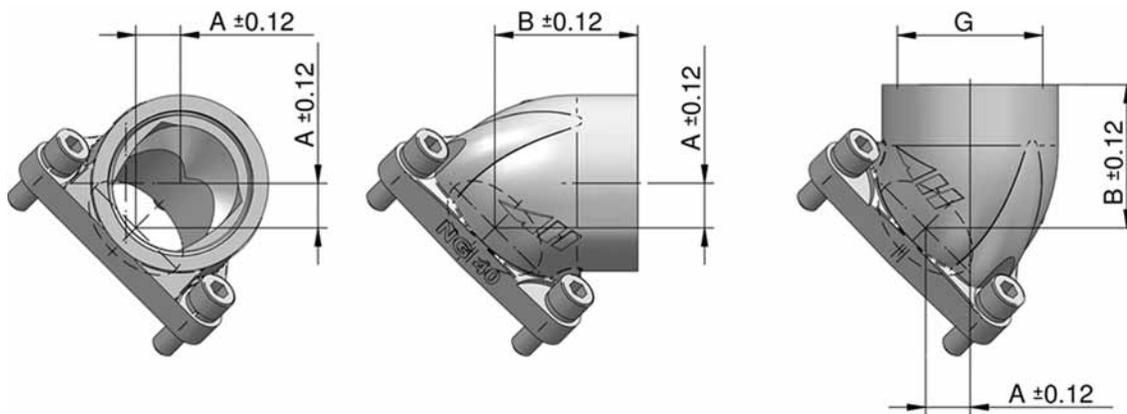
The asa universal connector is a patented system that offers many possibilities regarding dimension and direction of the hydraulic connection.

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 <sup>5</sup> / <sub>8</sub> "	aluminum	NBR, 70 shore, 1.38x0.12in	0.55	1.34	UN 1 <sup>5</sup> / <sub>8</sub> "	0.68
ILLZASA40U24	AUC NG 40 – UN 1 <sup>7</sup> / <sub>8</sub> "	aluminum	NBR, 70 shore, 1.73x0.12in	0.59	1.85	UN 1 <sup>7</sup> / <sub>8</sub> "	0.64

## Content

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

requires 2 pcs per cooler



Packed size, 2 pieces

## Fits On Cooler Types

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

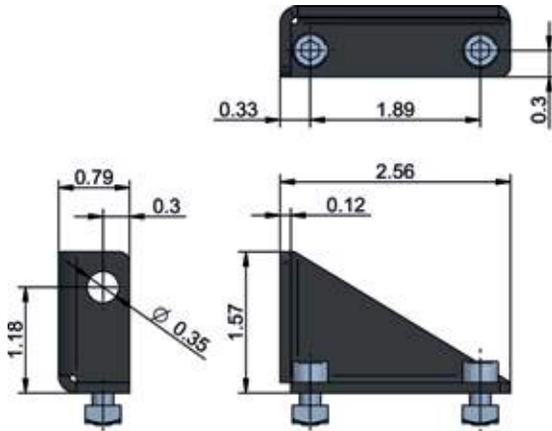
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# Mounting Accessories

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).

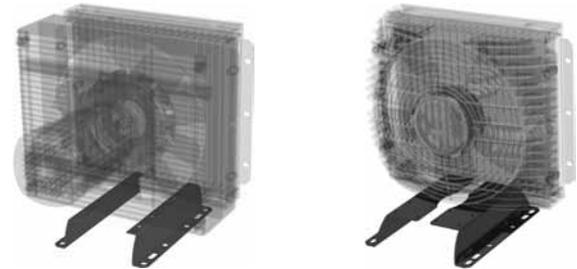
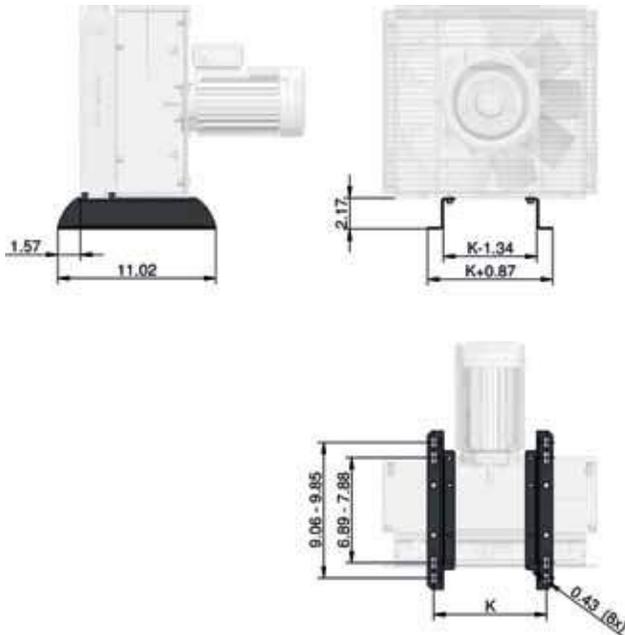


order number	description	fits on cooler type			
		TT 07	TT 11	TT 16	TT 25
MW3046K	rail mounting bracket kit (includes 2 brackets and screws/washers)	•	•	•	•

- ... 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 <sub>min</sub> [in]	K <sub>max</sub> [in]	cooler	K <sub>min</sub> [in]	K <sub>max</sub> [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

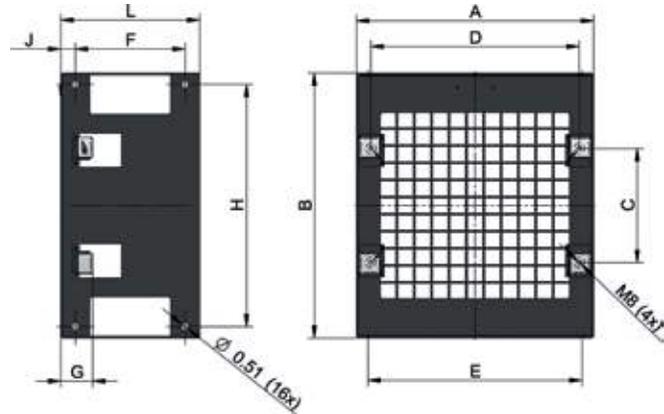
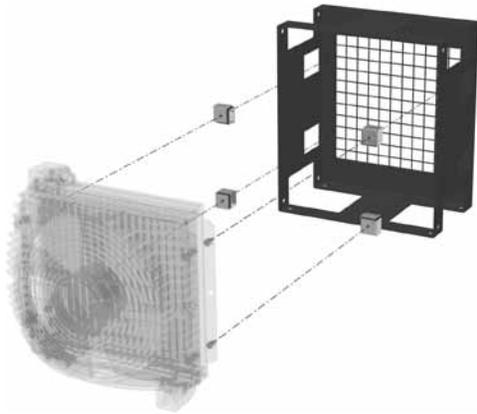
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# Mounting Accessories

## 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.



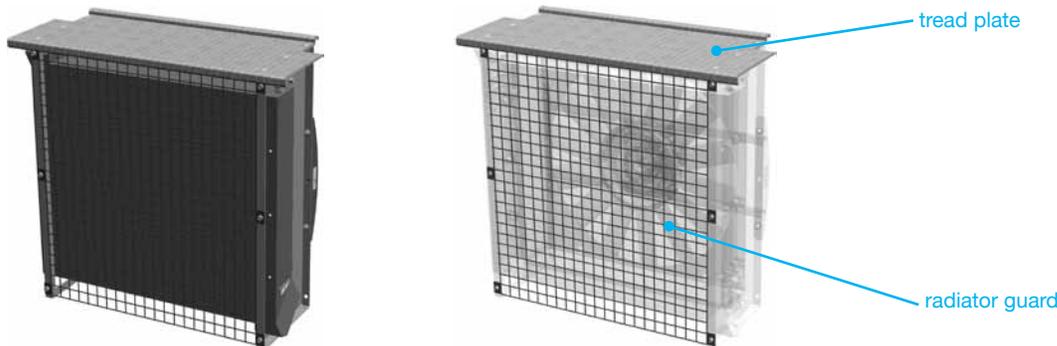
order number	description	A	B	C	D	E	F	H	L	weight
		[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[lbs]
ILLEGAKTT07GT	protection housing kit TT 07	13.39	16.73	6.77	11.42	11.81	7.48	15.16	9.45	18.30
ILLEGAKTT11GT	protection housing kit TT 11	16.14	18.31	7.87	14.17	14.57	7.48	16.73	9.45	20.94
ILLEGAKTT16GT	protection 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.

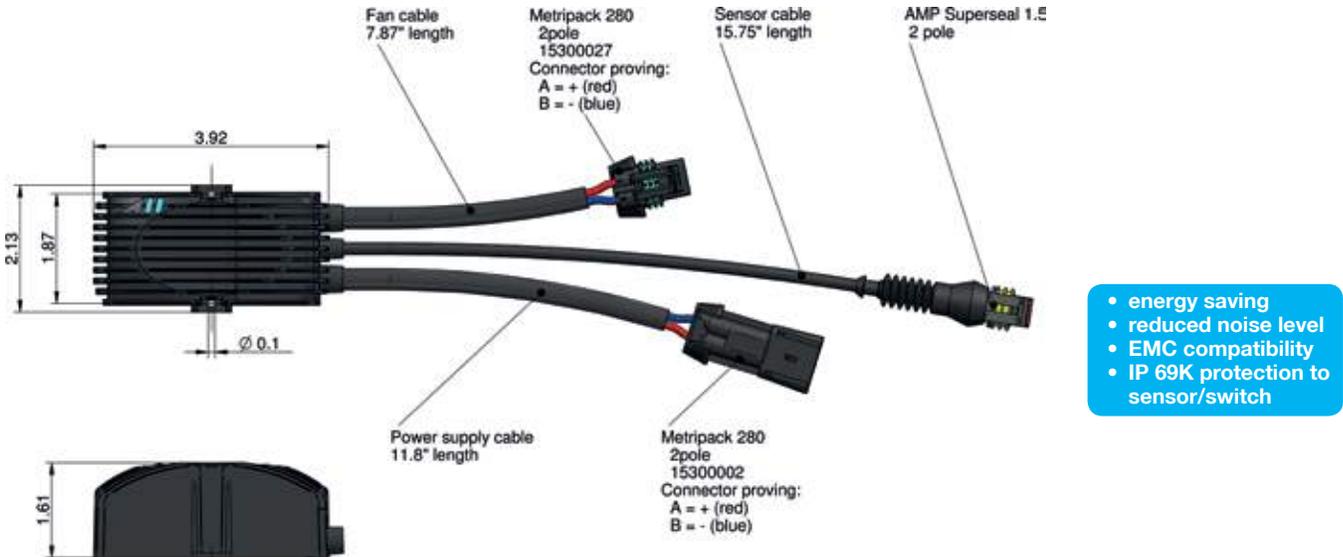


description	kit includes:	fits on cooler type					
		ASA 0177*	ASA 0257*	ASA 0367*	ASA 0467*	ASA 0567*	ASA 0927*
tread plate kit	plate, flat screws;	○	•	•	○	○	○
radiator guard	grid, screws, washers;	○	•	•	○	○	○

- ... 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
------------------------	--

#### Please note:

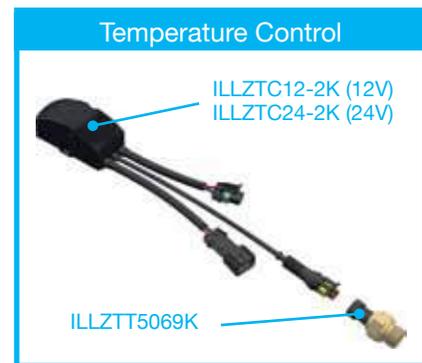
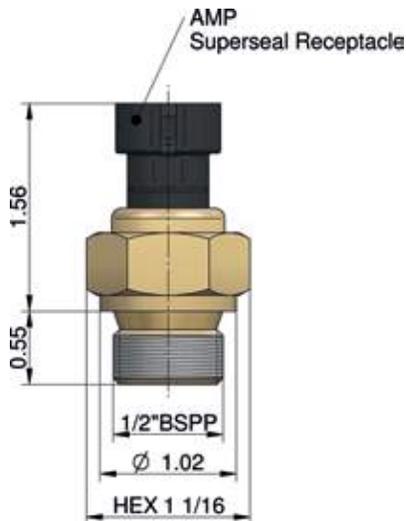
The maximum start current is approximately 10% higher than the nominal current of the motor. Observe the maximum allowable supply of the fan motor. The allowed voltage range of the fan might differ from the allowed voltage range of the temperature control. In case of inverse polarity of the supply, the 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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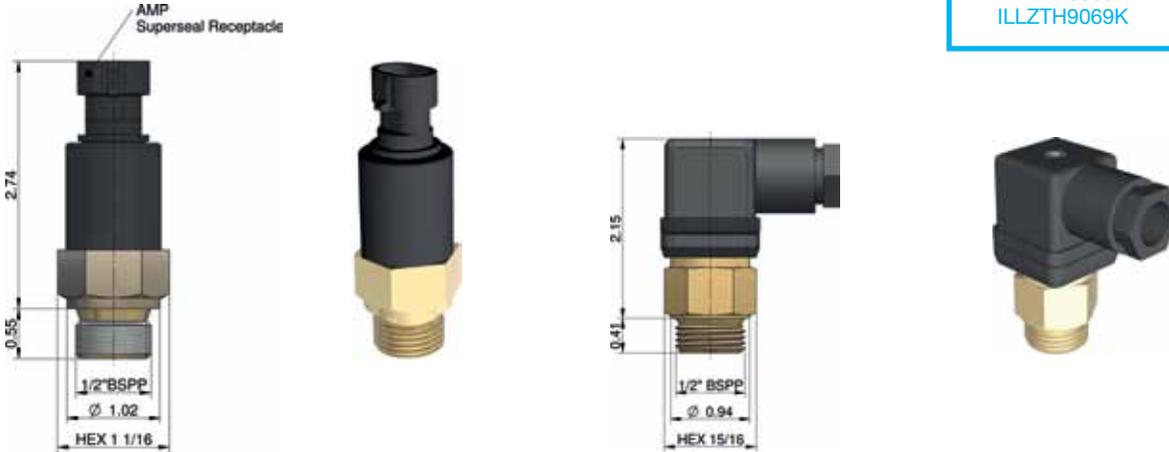
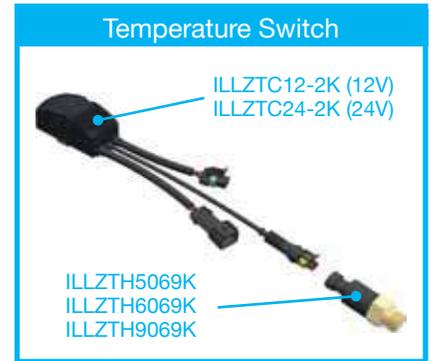
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# Electronic Accessories

## 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 <sub>f</sub> 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

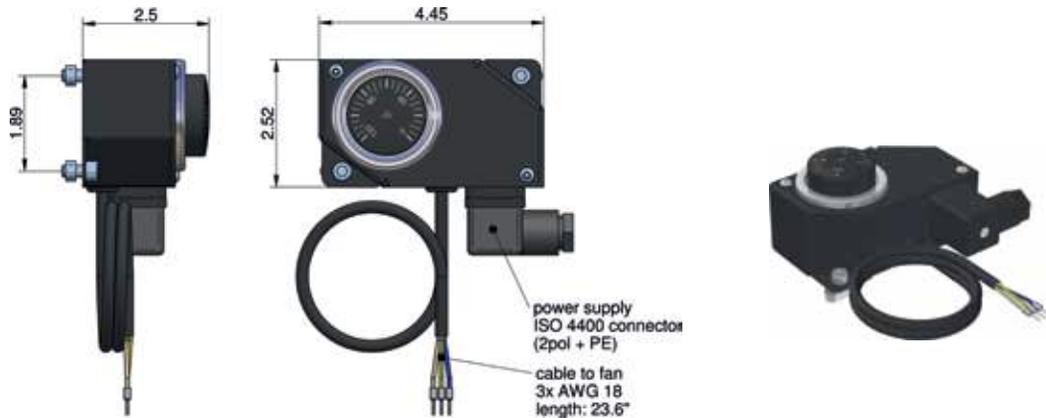
oil temperature range	-4°F to +212°F
ambient temperature range	-4°F to +185°F
storage temperature range	-140°F to 230°F

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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

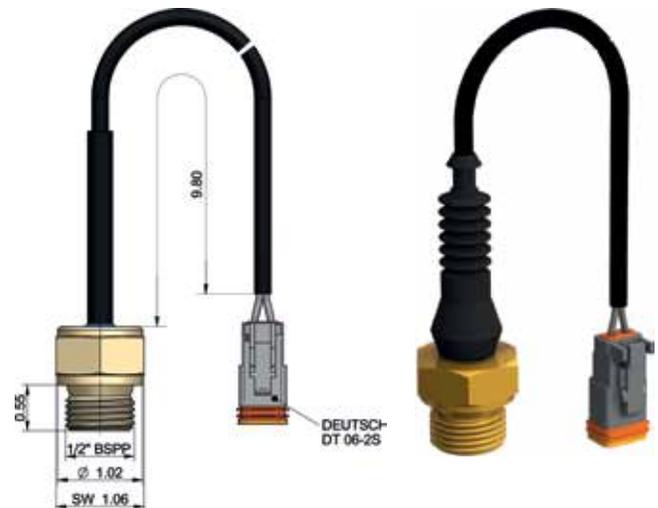
- rated power 25A intermediate operation
- 20A without air velocity over surface of fan control
- product is labeled with date of production (month/year)
- Product was successfully tested with 20G on all 3 axles with 6 cycles for each axle.
- The electronic is self protected against accidental block 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

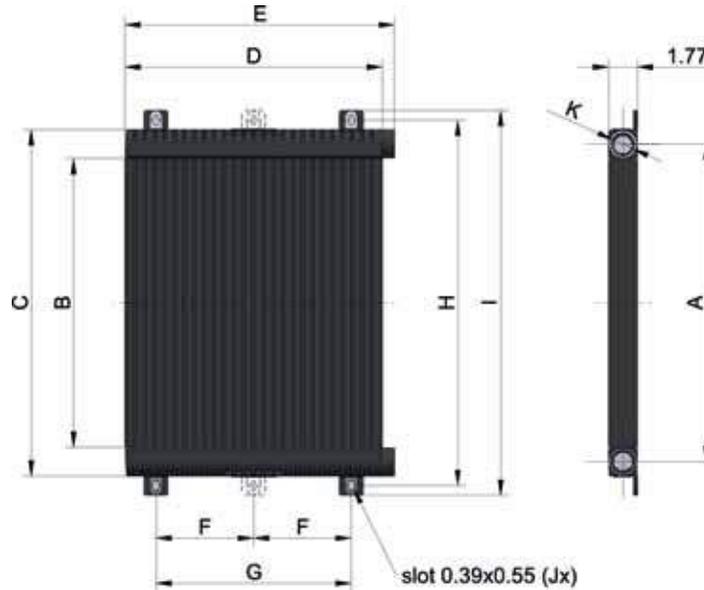
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# 12 SERIES

## 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

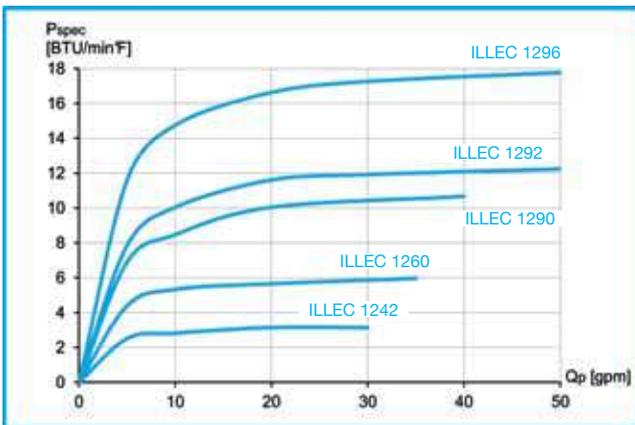


### Technical Data

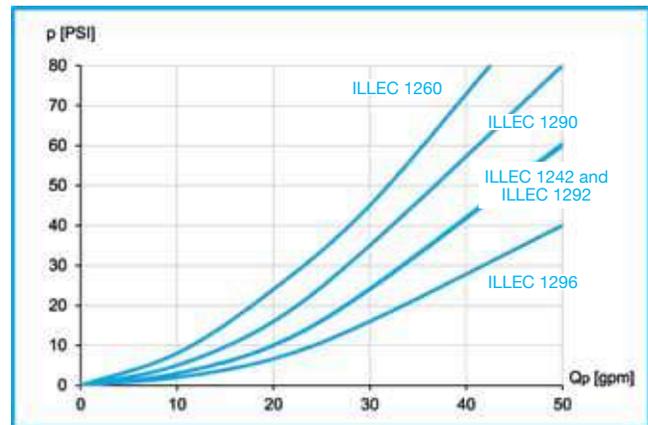
order number	A	B	C	D	E	F	G	H	I	J	K	weight
	[in]		SAE	[lbs]								
ILLEC1242	11.22	9.44	12.99	7.87	8.66	-	6.00	14.25	15.23	4	#16	5.80
ILLEC1260	19.48	17.71	21.26	7.87	8.66	-	6.00	23.50	23.50	4	#16	8.25
ILLEC1290	19.48	17.71	21.26	11.82	12.60	-	8.00	23.50	23.50	4	#16	11.80
ILLEC1292	19.48	17.71	21.26	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



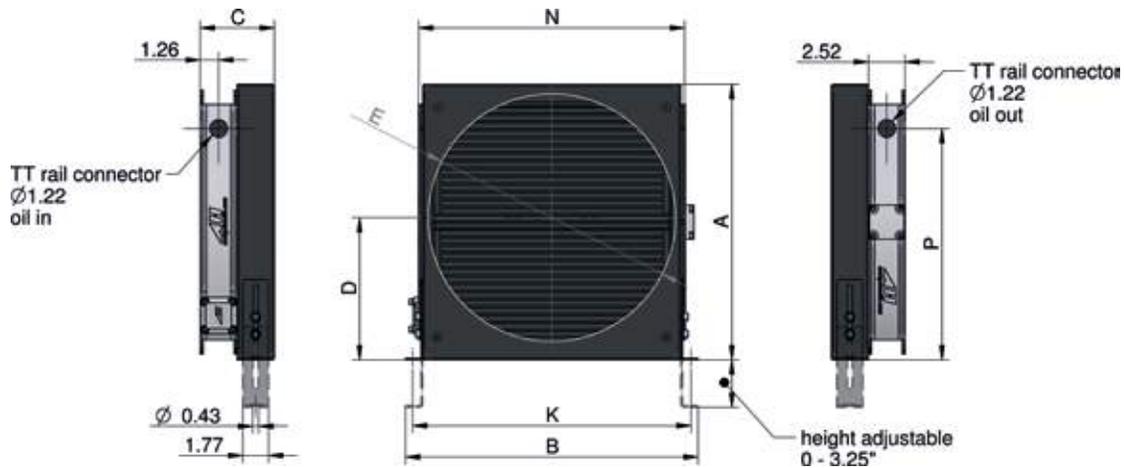
### Characteristics

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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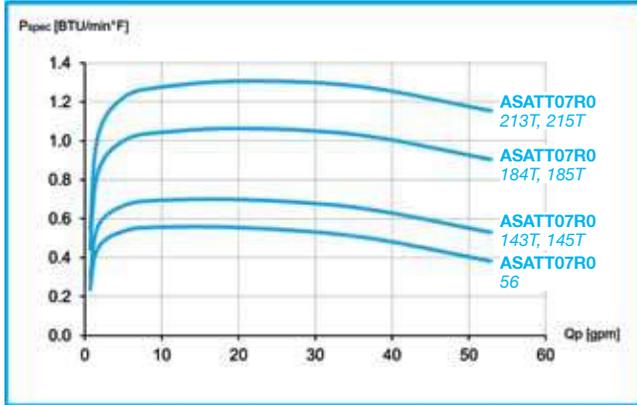
# Oil / Air Cooler Series NE

for NEMA mount, frames 56 to 365T

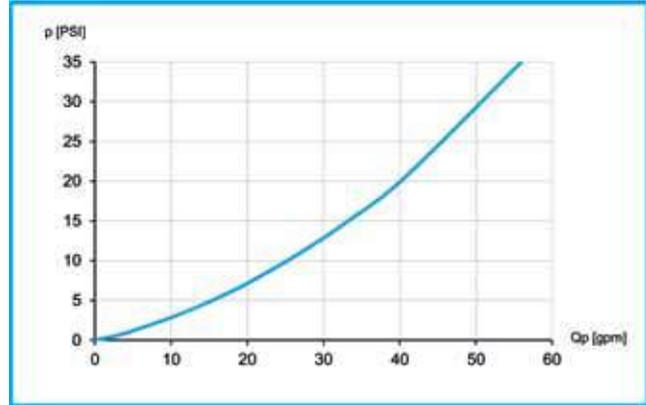
## Performance TT 07 rail NE

specific cooling performance

cooler number  
Nema frame

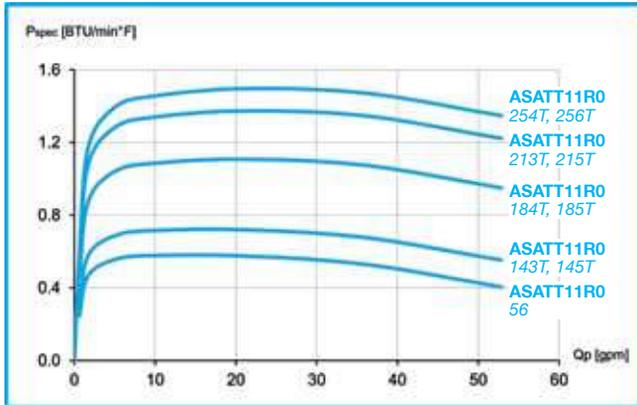


## pressure drop at 150 SSU

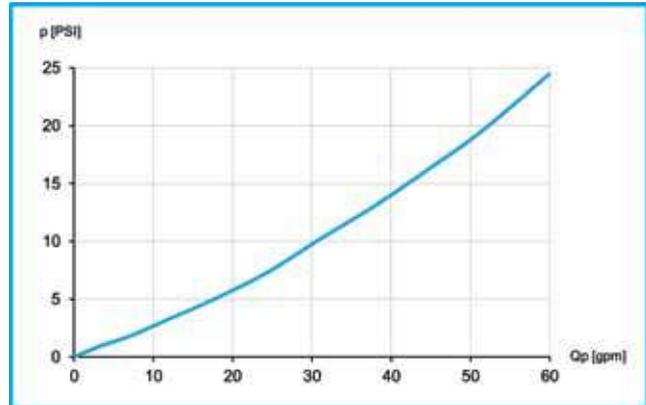


## Performance TT 11 rail NE

specific cooling performance

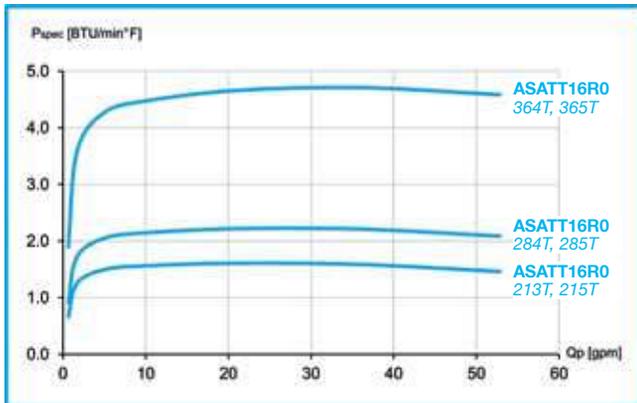


## pressure drop at 150 SSU

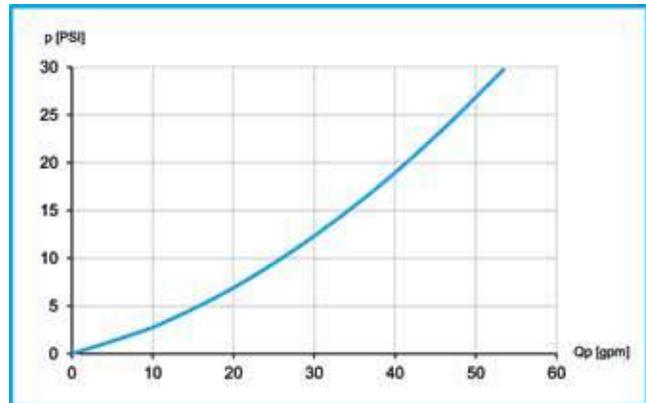


## Performance TT 16 rail NE

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

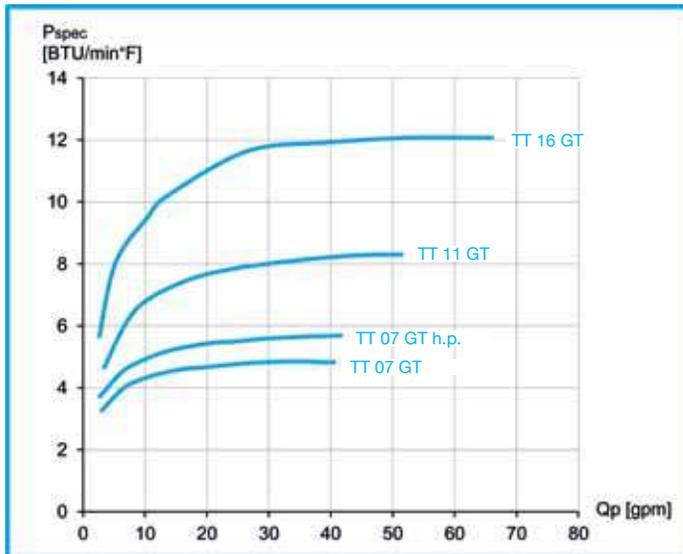
# Cooling Systems

## GT cooler

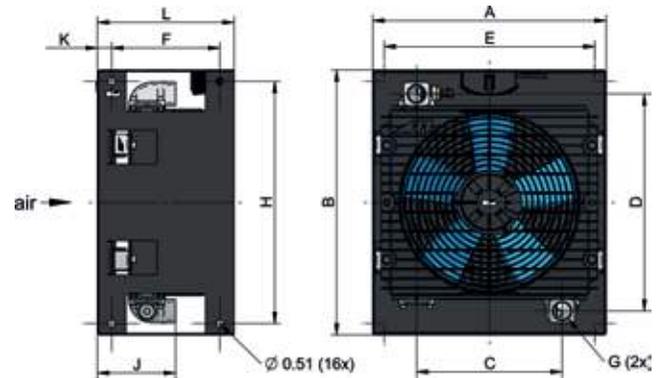
The GT cooler is a ready mounted cooler package, consisting of a cooler, protection housing, mounted rail connectors and the ready wired electronic temperature control. All standard cooler sizes from LL 06, TT 07 to TT 07 to ASA 0177 are available as a GT cooler. Also the internal bypass version is easy 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 <sup>5</sup> / <sub>16</sub> "	15.16	4.49	0.79	9.45	30.1	ASATT07UD01BPGT
ASATT07UD02GT	TT 07 rail 24V DC GT	13.15	16.73	6.91	13.43	11.81	7.48	1 <sup>5</sup> / <sub>16</sub> "	15.16	4.49	0.79	9.45	30.1	ASATT07UD02BPGT
ASATT07UD03GT	TT 07 rail 12V DC h.p. GT	13.15	16.73	6.91	13.43	11.81	7.48	1 <sup>5</sup> / <sub>16</sub> "	15.16	4.49	0.79	9.45	31.0	ASATT07UD03BPGT
ASATT07UD04GT	TT 07 rail 24V DC h.p. GT	13.15	16.73	6.91	13.43	11.81	7.48	1 <sup>5</sup> / <sub>16</sub> "	15.16	4.49	0.79	9.45	31.0	ASATT07UD04BPGT
ASATT11UD01GT	TT 11 rail 12V DC GT	16.14	18.31	10.08	15.00	14.57	7.48	1 <sup>5</sup> / <sub>16</sub> "	16.73	5.39	0.98	9.45	44.3	ASATT11UD01BPGT
ASATT11UD02GT	TT 11 rail 24V DC GT	16.14	18.31	10.08	15.00	14.57	7.48	1 <sup>5</sup> / <sub>16</sub> "	16.73	5.39	0.98	9.45	44.3	ASATT11UD02BPGT
ASATT16UD01GT	TT 16 rail 12V DC GT	19.29	23.23	12.91	20.28	17.72	8.27	1 <sup>5</sup> / <sub>8</sub> "	21.65	5.63	0.98	10.24	67.4	ASATT16UD01BPGT
ASATT16UD02GT	TT 16 rail 24V DC GT	19.29	23.23	12.91	20.28	17.72	8.27	1 <sup>5</sup> / <sub>8</sub> "	21.65	5.63	0.98	10.24	67.4	ASATT16UD02BPGT

## Radiator

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

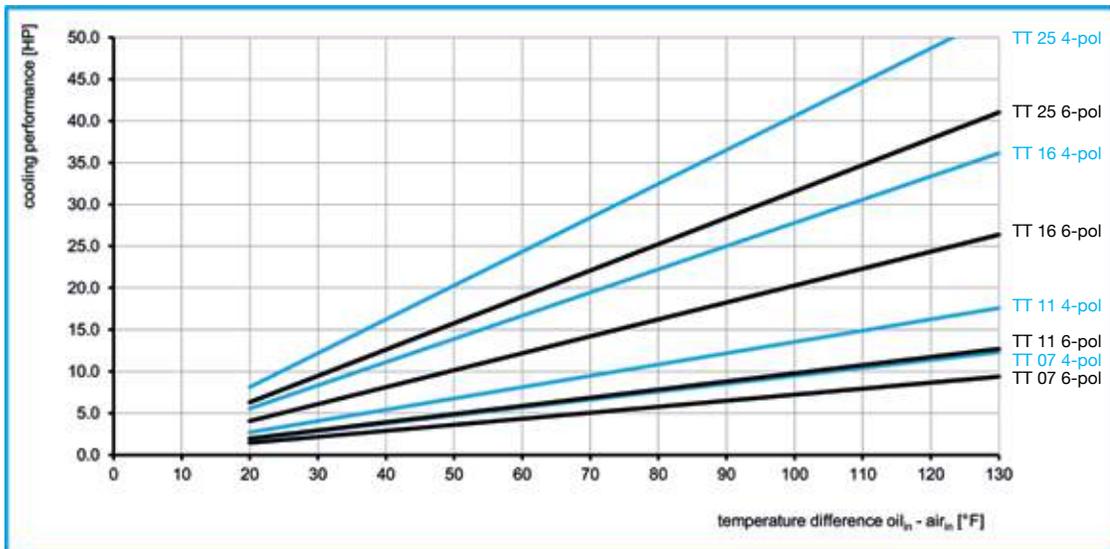


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# Cooling Systems

## 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 <sup>5</sup> / <sub>8</sub> "	
ILLZATT53U16K	1 per cooler required

### Options

asa rail connectors	UN 1 <sup>5</sup> / <sub>8</sub> ", 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  $0,80$

$\eta$  = 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  $\Delta t_{oil}$  by one pass

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

2. Air temperature increase  $\Delta t_L$

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

$Q_L$  = 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:

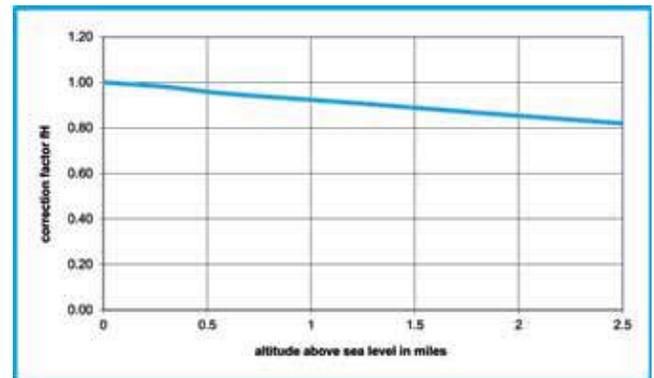
If the right cooler is found we recommend to check the oil pressure drop and to avoid too high oil pressure if necessary (e.g. bypass). The values indicated in the diagram are valid for a hydraulic oil with a viscosity of 30cSt (150 SSU). Multiply the pressure drop by the correction factor  $f$  according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

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

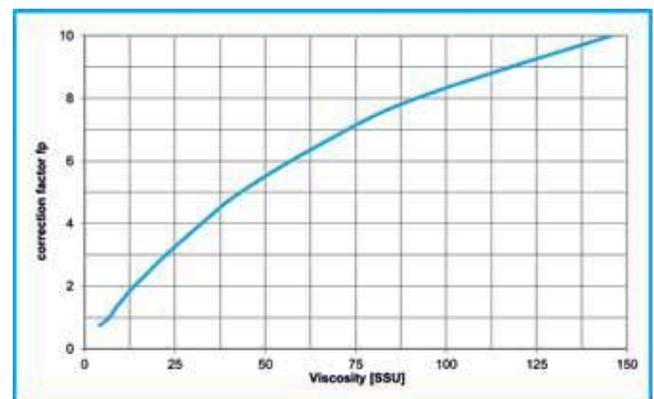
$\Delta p$  = oil pressure drop [PSI]  
 $\Delta p_{150 \text{ SSU}}$  = oil pressure drop at 150 oil viscosity [PSI]  
 $f_p$  = correction factor for the oil viscosity [1]

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)



# special accessories other products &

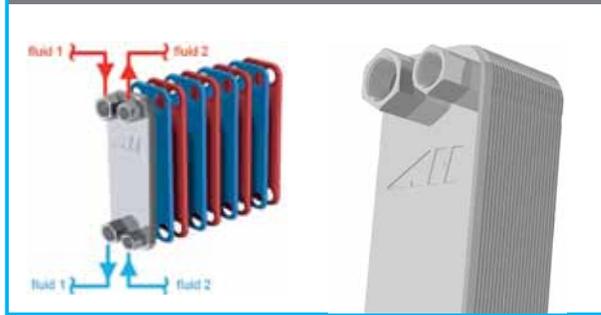
## COMPONENT SYSTEMS

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](http://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

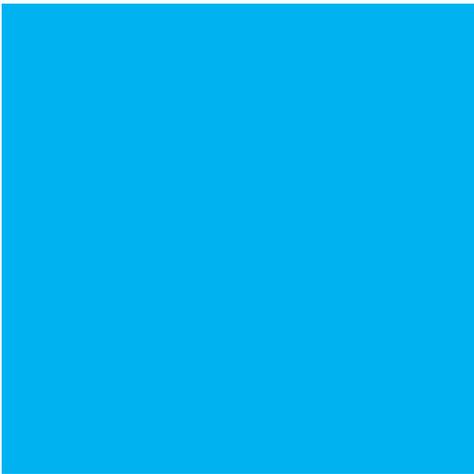
connector

mounting

electronic

cooler  
systems

calculation  
/ other  
products



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sales\_us@asahydraulik.com

your  
partner.



**components range**  
Leading quality engineering!

# asa

# bl



1980

### asa blue efficiency

asa blue efficiency stands for developments, advances and innovations already working for our customers' worldwide mobile and stationary applications.

More than 30 years experience in special hydraulic components and heat transfer equipment has made us a global leader in advanced technologies. This experience and progress ensures you competitive pricing, consistent product performance and reliability.

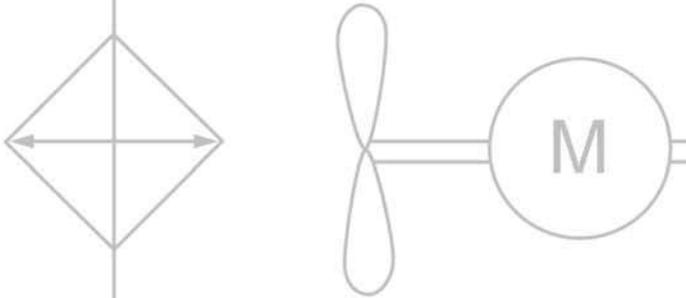
asa's **global capacities** follow worldwide standards, confirmed by successful ISO 9001 quality management and client audits. The modular design and patented solutions of our products offer many advantages for customizing the product to your application.



2013

Over the years, asa 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 promote our innovations. Flexibility, short lead time and quality engineering are our most important advantages.

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.



# leading quality engineering



asa hydraulik GmbH, Austria / EU



asa of America, New Jersey / USA

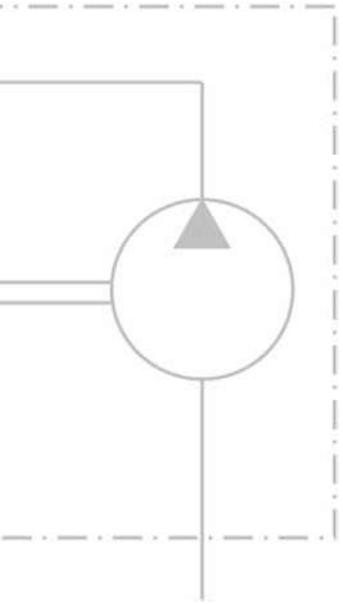


asa hydraulik of Kunshan / CHINA



# We efficiency

## asa blue efficiency keeps you 2 steps ahead!



Constant quality through standard parts.

Modular design and patented solutions offer customizing features.

Optimized oil flow on components for better performance and standards.

Flexible design on material and function.

Expanded working ranges through new materials.

Value added vibration absorbers offer the capability to resist highest shear loads!

The smallest depth on serial produced standard butterfly flanges.

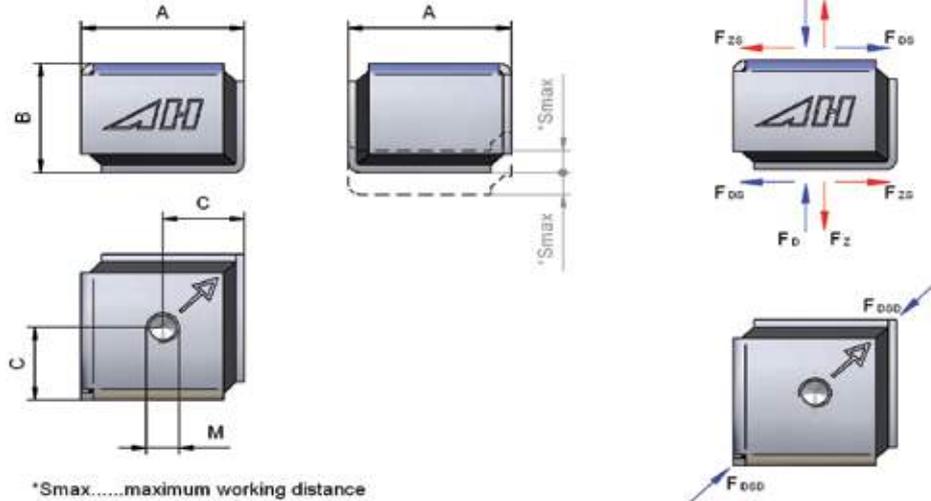
Compactness of serial produced parts as a function of capacity and life time.



# Rubber Vibration Absorber

## M8, M10, M12 & M16 Threads

The asa vibration absorbers are rubber metal connected parts to absorb impact loads on components to protect them and to extend the life time of the system. The patented solution is especially designed for highest shear loads. An assembly system can be checked by arrows on the metal parts to help to optimize and raise the load capability of the vibration absorber.



### Dimensions

description	order number	A	B	C	M	Smax	weight
		[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
40x40x30 M8	MDGQ403008IIK	40	30	20	M8 x 10	± 3	0,127
50x50x45 M10	MDGQ504510IIK	50	45	25	M10 x 12	± 6	0,280
75x75x55 M12	MDGQ755512IIK	75	55	37,5	M12 x 15	± 8	0,659
100x100x75 M16	MDGQ1007516IIK	100	75	50	M16 x 16,5	± 9	1,920

### Load Capacities, Maximum Static Loads

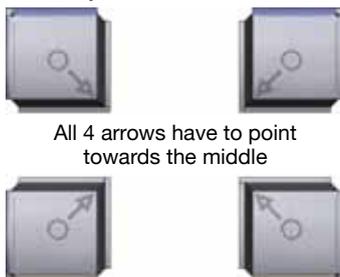
description	order number	compression $F_D$	tension $F_z$	compression/ shear $F_{DS}$	tension/shear $F_{zS}$	compression/ shear diagonal $F_{DSD}$
		[N]	[N]	[N]	[N]	[N]
40x40x30 M8	MDGQ403008IIK	800	250	700	350	950
50x50x45 M10	MDGQ504510IIK	2000	1450	1550	1500	2250
75x75x55 M12	MDGQ755512IIK	4250	2250	2600	2200	3850
100x100x75 M16	MDGQ1007516IIK	11700	8800	6900	6350	8350

### Spring Rates

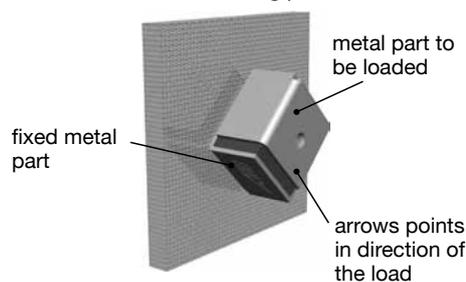
description	order number	compression $C_D$	tension $C_z$	compression/ shear $C_{DS}$	tension/ shear $C_{zS}$	compression/ shear diagonal $C_{DSD}$
		[N/mm]	[N/mm]	[N/mm]	[N/mm]	[N/mm]
40x40x30 M8	MDGQ403008IIK	267	83	233	117	317
50x50x45 M10	MDGQ504510IIK	333	241	258	250	375
75x75x55 M12	MDGQ755512IIK	531	281	325	275	481
100x100x75 M16	MDGQ1007516IIK	1301	982	770	709	932

### Assembly Instructions

Assembly of 4 shock absorbers:



Best mounting position:



### Material

metal	zinc coated steel
elastomer	natural rubber
working temperature	-30°C to +80°C

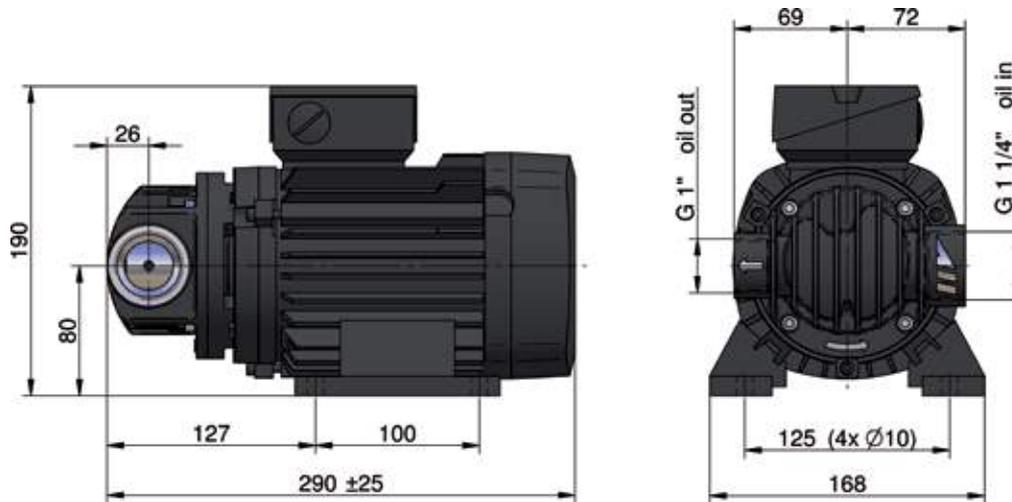
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# Gerotor Pump Unit

30l/min, 230/400V 50Hz

The asa gerotor pump unit fulfills the requirements of a modern hydraulic system. The compactness of the gerotor pump design saves weight and space. Furthermore the solid shape of the pump has high resistance to hydraulic and mechanic impact loads. The low noise level and easy connection makes this product highly flexible and reliable to various applications.

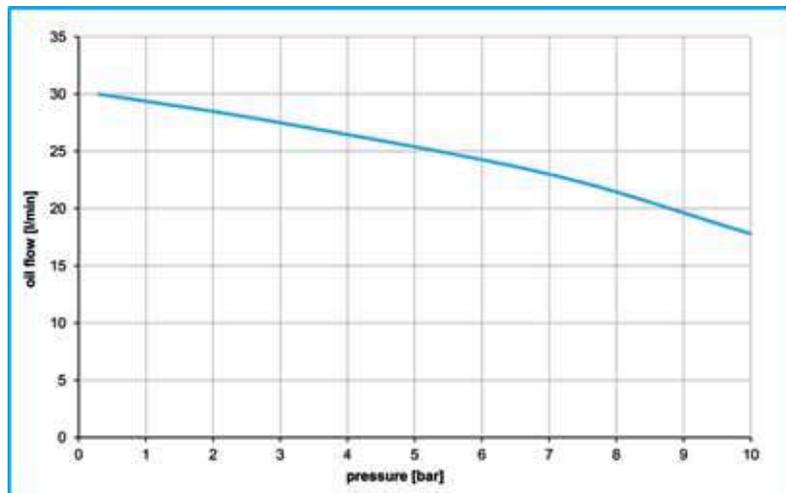
The coupling with a high quality standard motor is the optimal choice for a durable pump unit.



## Technical Data

description	order number	motor power [kW]	max. oil viscosity [cSt]	oil flow [l/min]	neg. pressure [bar]	poles	max. current [A]	frequency [Hz]	weight [kg]
GERO unit 100	HY0200758G	0,75 / 0,85	100	30	-0,4	4	2,1	50/60	13,8

## Pump Characteristic



## Material

pump housing	aluminium
gerotor	sintered steel
sealings	NBR

## Working Range

ambient temperature	-20°C to +40°C
maximum working pressure	10bar
maximum oil temperature	80°C (100°C on request)
fluids	mineral oils

## Options

on request	other voltages
	UL- or CSA approvals
	higher protection level
	250cSt version
	single phase motor

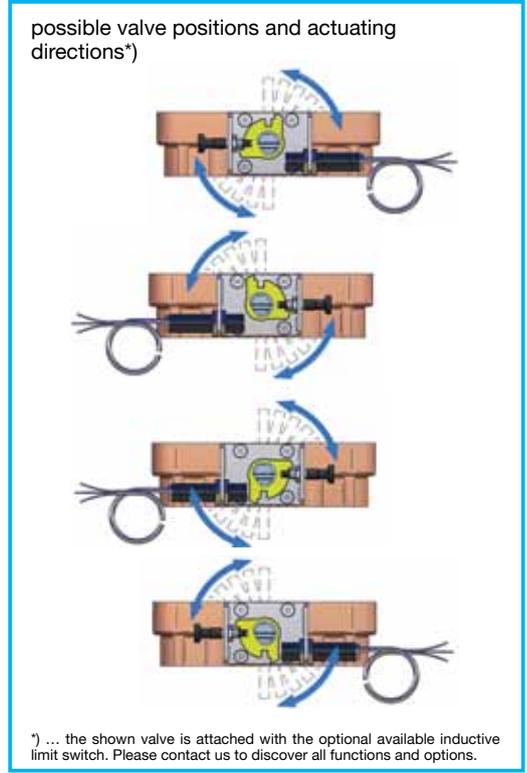
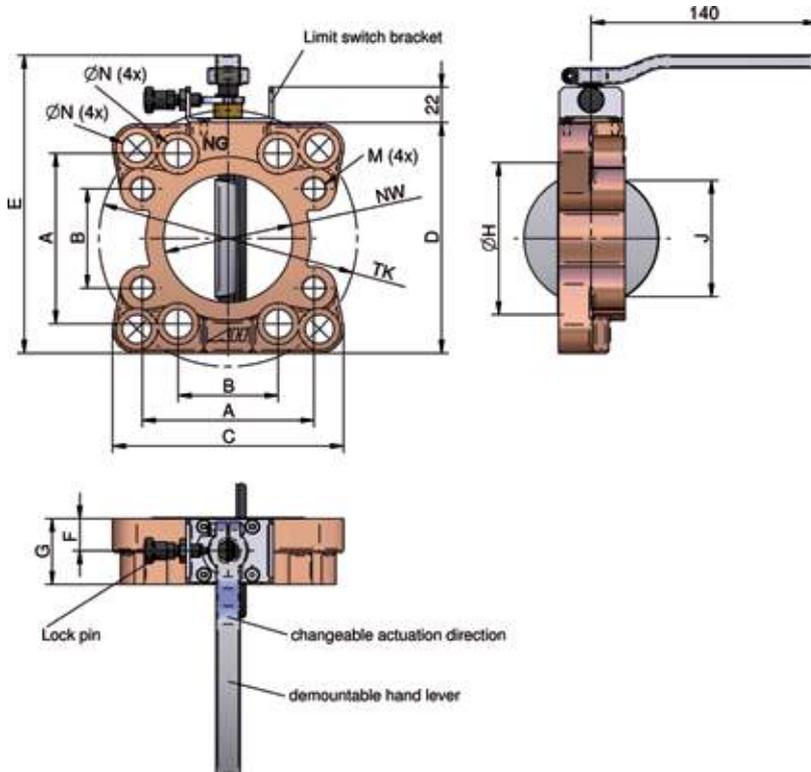
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# Butterfly flange

AF-40, AF-50, AF-63, AF-80, AF-100, AF-125

The asa butterfly flange with SAE and DIN connections allows the combination with an elastic element (rubber compensator) to make a short compensating and economical connection with the pump port. The lever position can be changed through our new mechanism.

The handle direction (clockwise or counter clockwise) can be changed by turning the switch bracket. Please note that the butterfly flange may only be opened in mounted state and with greased or lubricated sealing. The adapter flange may only be welded with demounted butterfly flange.



## Technical Data

description	order number	size		A	B	C	D	E	F	G	Ø H	J	M	Ø N	NW	TK	weight
		SAE	DIN	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
AF 40	SDA0040	1 1/2"	40	70	35,7	102	120	162	25	43	60	23,5	M12	13,5	40	110	2,17
AF 50	SDA0050	2"	50	77,8	42,9	111	112	155	20	43	73	35,8	M12	13,5	48	125	2,20
AF 63	SDA0063	2 1/2"	65	89	50,8	111	119	161	20	40	83	55,3	M12	13,5	63	125	2,15
AF 80	SDA0080	3"	80	106,4	62	144	145	187	20	41	95	73,9	M16	18	80	160	2,98
AF 100	SDA0100	4"	100	130	77,8	163	162	205	20	43	123	98,2	M16	18	100	180	4,01
AF 125	SDA0125	5"	125	152,4	92	185	185	227	20	43	148	124,0	M16	18	125	210	4,80

## Working Ranges

max. working pressure	7 bar
max. differential pressure	6 bar
temperature range	-20°C to +80°C

## Material

housing	GGG 40, cast iron
lever	steel (galvanized)
valve disc	aluminium
seals	NBR

## Options

limit switch	mechanical or inductive type
on request	full steel version
on request	Viton seal version

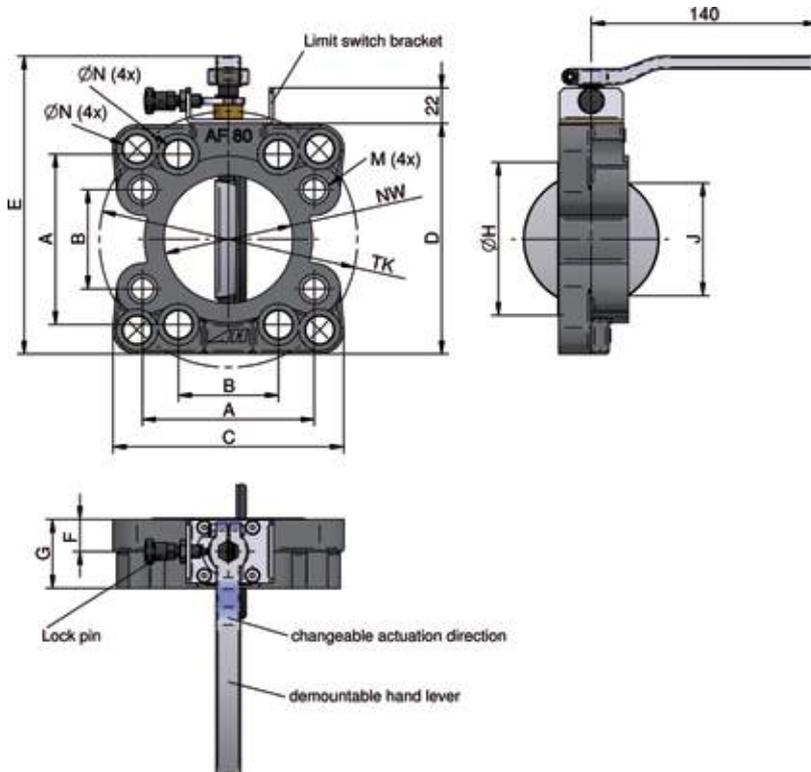


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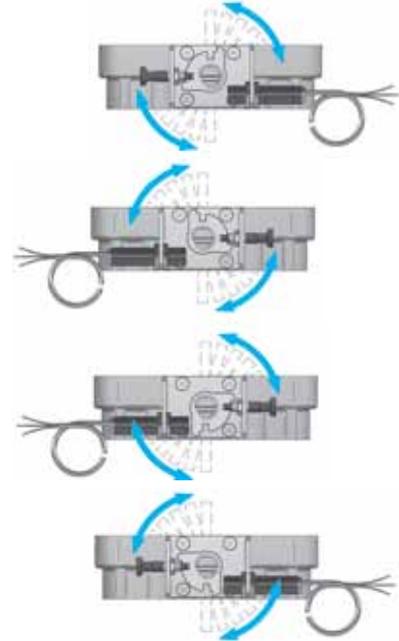
# Butterfly flange

AF-50, AF-63 and AF-80 aluminium design

The asa butterfly flanges are now also available with aluminium body. The design is analogous to the standard valves (AF). SAE and DIN connections allow the combination with elastic elements (rubber compensator) to make a short and economical connection with the pump port. The lever position can also be changed through the same mechanism. The handle direction (clockwise or counter clockwise) can be changed by turning the switch bracket. Please note that the butterfly flange may only be opened in mounted state and with greased or lubricated sealing. The adapter flange may only be welded with demounted butterfly flange.



possible valve positions and actuating directions\*)



\*) ... the shown valve is attached with the optional available inductive limit switch. Please contact us to discover all functions and options.

## Technical Data

description	order number	size		A	B	C	D	E	F	G	ØH	J	M	ØN	NW	TK	weight
		SAE	DIN	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
AF 50 Alu.	SDA0050A	2"	50	77,8	42,9	112	112	155	20	43	73	35,8	M12	13,5	48	125	1,05
AF 63 Alu.	SDA0063A	2 1/2"	65	89	50,8	111	119	161	20	43	83	55,3	M12	13,5	63	125	1,09
AF 80 Alu.	SDA0080A	3"	80	106,4	62	144	145	187	20	43	95	73,9	M16	18	80	160	1,48

## Working Ranges

max. working pressure	7 bar
max. differential pressure	6 bar
temperature range	-20°C to +80°C

## Material

housing	aluminium
lever	steel (galvanized)
valve disc	aluminium
seals	NBR

## Options

limit switch	mechanical or inductive type
on request	Viton seal version



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# Compensator

Size 1"– 5"

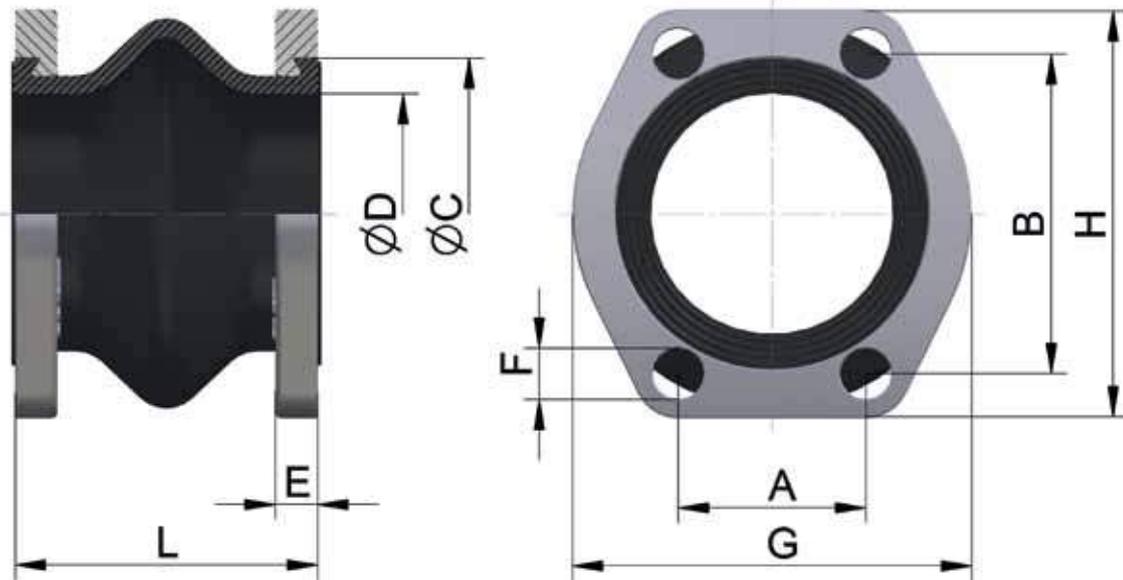
Rubber compensators are elastic connectors with turn able SAE flanges. Compensators are used for damping oscillations, vibrations, noises and movements in axial and transversal direction.

## Design

Rubber compensators have a plain surface vulcanized to a fabric body (inside and outside) of the rubber part. The outside is weather resistant and protects the fabric against ageing, wear and corrosion. The interior of the rubber part consists of nitril-butadien-caoutchouc (BUNA-N). Because compensators have tightening lips on both sides, further seals are not necessary.

## Operating range for suction and return lines.

All mineral oil products, crude oil, lubrication oil, cooling oil (–20°C/68°F up to 80°C/176°F, intermittent 100°C/212°F), grease, cold water, warm water up to 60°C (140°F), water/oil emulsions, fuel with 30% aromatic content.



description	order number	size		A	B	C	D	E	F	G	H	L	weight
		SAE	NG	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
K16S – 25	SDKSS025	1"	25	26,2	52,4	43	25	11	11	59	70	65	0,4
K16S – 32	SDKSS032	1 ¼"	32	30,2	58,7	50	32	11	13	73	81	65	0,5
K16S – 40	SDKSS040	1 ½"	40	35,7	70,0	62	40	13	13	83	95	100	0,8
K16S – 50	SDKSS050	2"	50	42,9	77,8	72	48	13	13	97	103	100	1,0
K16S – 63	SDKSS063	2 ½"	63	50,8	89,0	87	63	14	13	109	115	100	1,2
K16S – 80	SDKSS080	3"	80	62,0	106,4	104	80	14	17	131	136	100	1,8
K16S – 90	SDKSS090	3 ½"	90	70,0	120,6	104	80	14	17	140	152	100	1,9
K16S – 100	SDKSS100	4"	100	77,8	130,2	130	100	16	17	152	162	100	2,5
K16S – 125	SDKSS126	5"	125	92,0	152,4	155	125	16	17	165	184	130	3,0

NG\* ... nominal size / Nenngröße

## Material

inside	NBR
outside	CR
flange	steel (galvanized)



## Working Pressure

maximum working pressure	0,2–1,5 bar absolute
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Please contact us for the maximum movement tolerances of the rubber connection! Note, that dimension and tolerances have to be taken from the corresponding scale drawing.

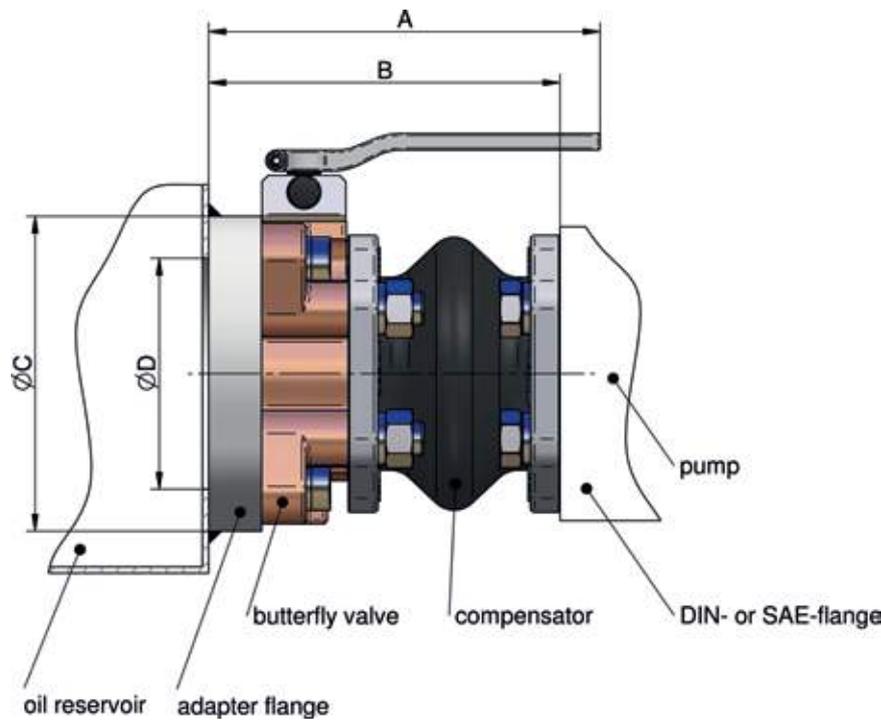
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# Suction Unit

## SAE 1½" – SAE 5"

The asa suction unit has been developed to provide a compact unit in hydraulic systems. The asa butterfly flange with SAE connections allows the combination with an elastic element (rubber compensator) to make a short compensating and economical connection with the pump port. The asa suction unit is screwed to the asa adapter flange, which is welded to the tank. Due to low installation costs and compact design, purchasing asa suction units is cost effective. A switch (mechanical or inductive) can be mounted on the standard block for monitoring matters.

At the delivery configuration the lever position corresponds to the valve position (can be changed, see butterfly flanges). Thus the aperture angle is well-defined even in mounted state. The handle direction (clockwise or counter clockwise) can be changed by turning the switch bracket. Please note that the butterfly flange may only be opened in mounted state and with greased or lubricated sealing. The adapter flange may only be welded with demounted butterfly flange.



### Technical Data

description	order number	size		A	B	C	D	weight
		SAE	DIN	[mm]	[mm]	[mm]	[mm]	
ESAF – 40	SDAK0040T	1 ½"	40	185	168	130	89	5,20
ESAF – 50	SDAK0050T	2"	50	185	168	150	103	6,20
ESAF – 63	SDAK0063T	2 ½"	65	185	165	150	103	6,40
ESAF – 80	SDAK0080T	3"	80	185	166	150	109	7,50
ESAF – 100	SDAK0100T	4"	100	185	168	180	139	9,80
ESAF – 125	SDAK0125T	5"	125	185	198	205	164	11,60

### Working Ranges

working pressure range	0,2 – 1,5 bar absolute
temperature range	-20°C to +80°C

### Material

butterfly valve housing	GGG 40 (0.7040), cast iron
valve disc	aluminium
gasket	NBR
compensator flange	steel (galvanized)
compensator rubber inside	NBR
compensator rubber outside	CR
adapter flange	steel

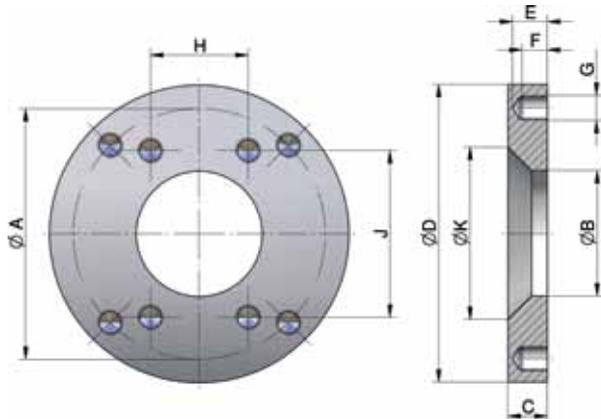


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# Adapter Flange

accessories for use on butterfly flanges

The asa suction unit is screwed to the asa adapter flange, which is welded to the tank. Due to low installation costs and compact design, purchasing asa suction units is cost effective. The adapter flange may only be welded with demounted butterfly flange.



material: ST 37 (1.0037)

The adapter flange may only be welded without the butterfly flange attached.

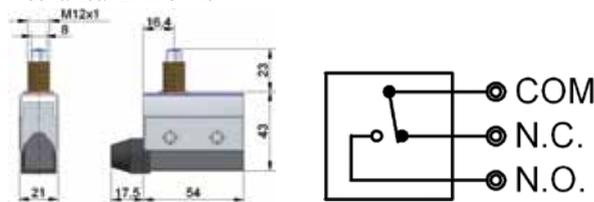
## Technical Data

description	order number	A	B	C	D	E	F	G	H	J	K	weight
		[mm]	[mm]	[mm]	[mm]	[kg]						
adapter 40	SDAET040K	110	49	25	130	22	14	M12 (4x)	-	-	89	1,9
adapter 50 & 63	SDAET063K	125	63	25	150	22	14	M12 (4x)	-	-	103	2,45
adapter 80	SDAET080K	-	82	25	150	22	16	M16 (4x)	62	106	109	2,15
adapter 100	SDAET100K	-	103	25	180	22	16	M16 (4x)	77,8	130	139	2,8
adapter 125	SDAET125K	-	128	25	205	22	16	M16 (4x)	92	152	164	3,3

## Limit Switch

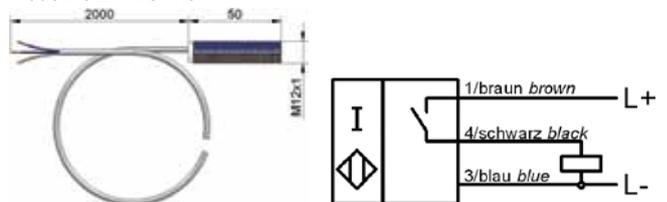
accessories for use on butterfly flanges and suction units

### Mechanical Limit Switch



order number	EAFSMK
Control voltage at 15V AC	10A res., 6A ind.
Control voltage at 250V AC	10A res., 4A ind.
Control voltage at 115V AC	0,4A res., 0,05A ind.
Expected mechanical durability	10 <sup>7</sup> (at 50cpm)
Expected electrical durability	10 <sup>5</sup> (at 20cpm)
Ambient temperature	-20°C to +60°C (68-140°F)
Ambient humidity	max. 95% at 20°C (68°F)
Max. operating speed	120cpm
Protection switch	IP 64
Protection connections	IP 60
Switch function	Two way contact
Rated insulation voltage	250V AC
Rated impulse withstand voltage	2,5kV
Switching over voltage	2,5kV
Rated enclosed thermal current	10A
Conditional short-circuit current	100A
Short circuit protection device	10A fuse

### Inductive Limit Switch



order number	EAFSIK
Operating voltage	10 to 30V
Switching frequency	0 to 1500Hz
Reverse polarity protection	protected
Short-circuit protection	pulsing
Voltage drop	= 3V
Operating current	0 to 200mA
Off state current	0 to 0,5mA typ. 0,1µA
No-load supply current	= 17mA
Indication of the switching state	LED, yellow
Ambient temperature	-25°C to 70°C (77°F-158°F)
Switching element function	PNP make function
Rated operating distance	2mm
Installation	embeddalbe
Assured operating distance	0 to 1,62mm
Reduction factor r <sub>Al</sub>	0,3
Reduction factor r <sub>Cu</sub>	0,2
Reduction factor r <sub>V2A</sub>	0,7
Protection degree	IP67

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# special accessories other products &

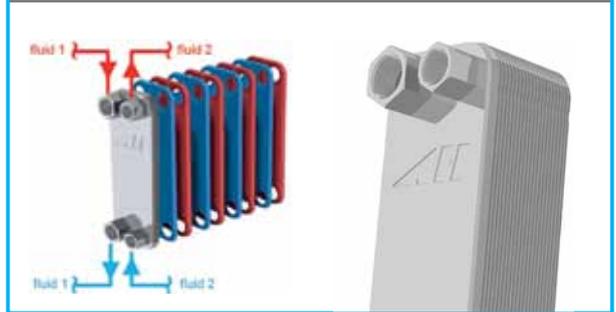
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# progress in cooling



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