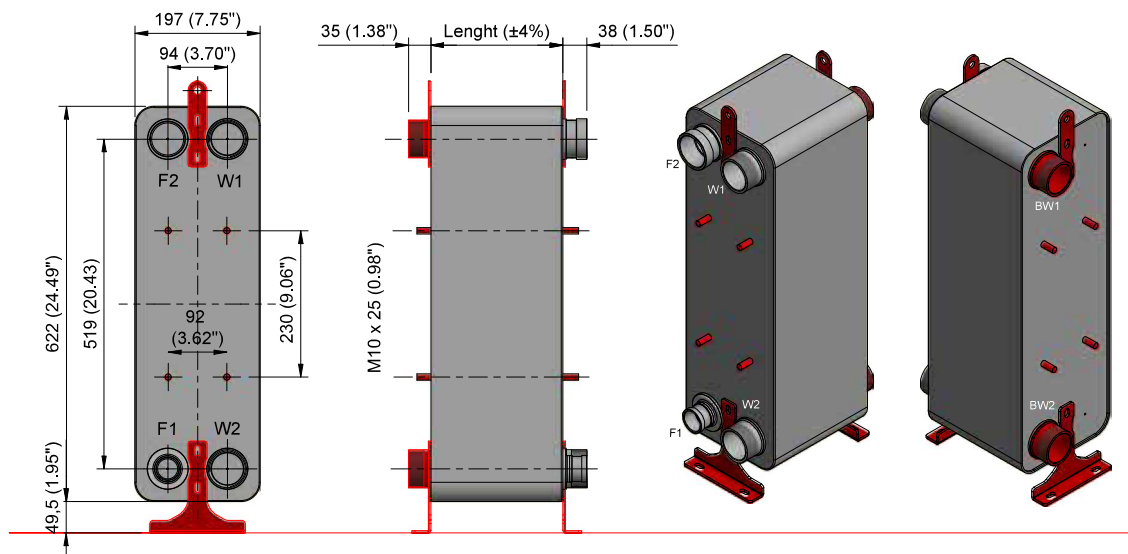




ADVANCED HEAT EXCHANGERS

BRAZED PLATE HEAT EXCHANGERS

S182-S182M SINGLE CIRCUIT



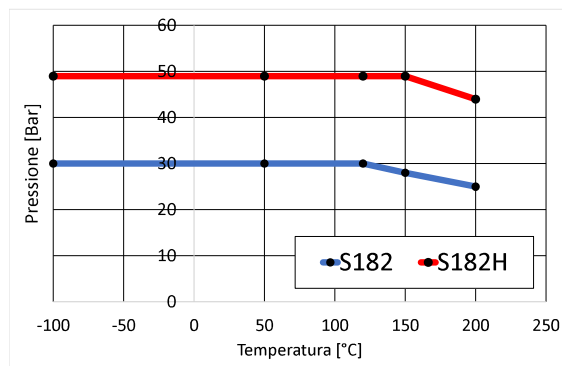
Optional: stud bolts and mounting feet

F1 INLET Refrigerant W1-BW1 INLET Secondary Fluid
F2 OUTLET Refrigerant W2-BW2 OUTLET Secondary Fluid

SPECIFICATIONS	S182	S182H
PS (bar)	30	49
TEMPERATURE RANGE (°C)	-100°C to +120°C	-100°C to +150°C
MAXIMUM CONNECTIONS AVAILABLE (mm)	57	57
MAXIMUM FLOW RATE (m3/h)	38,9	38,9
VOLUME / CHANNEL (liters)	0,269	0,269
DIMENSIONS (mm)	197 x 622	197 x 622
LENGHT CALCULATION (mm)	N x 2,35 + 18	N x 2,35 + 18
WEIGHT CALCULATION (kg)	N x 0,36 + 12	N x 0,36 + 12
SAME "H" DESIGN		

Weight of connections not included

CONNECTIONS TYPE					
Soldering	Threaded M	Threaded F	Grooved	Rotalock	Flanges
S22	C48	F48	V50	R32	CF66*
S28	IC48	F60	V65	R44	
S35	C60	IF48		R58	
S42	IC60	IF60			
S54	IC70				
S60	G48				
	G60				
	G70				
Standard Connections: F1 S35 F2 S54 W1-W2 C60					
FOR SPECIAL CONNECTIONS SEE PAGE 34 AND 35					



N Number of plates * ONLY IN W1/W2

LETTER TO IDENTIFY CONNECTIONS TYPE

S Soldering Connections
C Conical Male Gas Threaded Connections
G Cylindric Male Gas Threaded Connections
F Female Gas Threaded Connections
V-BV Grooved System for Standard Flexible Coupling
R Rotalock Connections Male

EXCHANGE PLATE MATERIAL Stainless Steel 316L
BRAZING MATERIAL Copper (Cu)

ALL POSSIBLE CONNECTIONS
FOR THESE CONNECTIONS CONTACT TECHNICAL DEPT

S06 / S07 / S09 / S22			
Soldering	Threaded M	Threaded F	Rotalock R
S6/20	C22/20	F22/20	R19/20
S8/20	C27/20	IF6/20	R25/20
S9/20	IC22/20	IF8/20	
S10/20	IC27/20	IF22/20	
S12/20	G22/20	IF26/20	
S14/20	G27/20		
S16/20			
S18/20			
S19/20			
S20/20			

S16				
Soldering	Threaded M	Threaded F	Rotalock R	Grooved V
S6/27	C22/27	F22/27	R19/27	V32/27
S8/27	C27/27	F27/27	R25/27	V40/27
S9/27	C32/27	F32/27	R32/27	BV32
S10/27	IC22/27	IF6/27		BV40
S12/27	IC27/27	IF8/27		
S14/27	IC32/27	IF22/27		
S16/27	G22/27	IF27/27		
S18/27	G27/27	IF32/27		
S19/27	G32/27			
S22/27				
S28/27				
S35/27				

S12 / S62 / S82 / S82M S87 / S93				
Soldering	Threaded M	Threaded F	Rotalock R	Grooved V
S6/27	C22/27	F22/27	R19/27	V32/27
S8/27	C27/27	F27/27	R25/27	V40/27
S9/27	C32/27	F32/27	R27/93	BV32
S10/27	C42/27	F42/27	R32/27	BV40
S12/27	IC22/27	IF6/27	R44/27	
S14/27	IC27/27	IF8/27		
S16/27	IC32/27	IF22/27		
S18/27	IC42/27	IF27/27		
S19/27	G22/27	IF32/27		
S22/27	G27/27	IF42/27		
S28/27	G32/27			
S35/27	G42/27			

S101				
Soldering	Threaded M	Threaded F	Rotalock R	Grooved V
S6/27	C22/27	F22/27	R19/27	V32/27
S8/27	C27/27	F27/27	R25/27	V40/27
S9/27	C32/27	F32/27	R32/27	BV32
S10/27	C42/27	F42/27	R44/27	BV40
S12/27	IC22/27	IF6/27	R58/27	
S14/27	IC27/27	IF8/27		
S16/27	IC32/27	IF22/27		
S18/27	IC42/27	IF27/27		
S19/27	G22/27	IF32/27		
S22/27	G27/27	IF42/27		
S28/27	G32/27			
S35/27	G42/27			
IS41/27				
S42/27				
S50/27				

S182 / S182M / S202 / S202M / S222					
Soldering	Threaded M	Threaded F	Rotalock R	Grooved V	Flanges F
S6/38	C22/38	F22/38	R19/38	V32/38	CF66
S8/38	C27/38	F27/38	R25/38	V40/38	
S9/38	C32/38	F32/38	R32/38	V50/38	
S10/38	C42/38	F42/38	R44/38	V65/38	
S12/38	C48/38	F48/38	R58/38	BV32	
S14/38	C60/38	F60/38		BV40	
S16/38	IC22/38	IF6/38			
S18/38	IC27/38	IF8/38			
S19/38	IC32/38	IF22/38			
S22/38	IC42/38	IF27/38			
S28/38	IC48/38	IF32/38			
S35/38	IC60/38	IF42/38			
IS41/38	G22/38	IF48/38			
S42/38	G27/38	IF60/38			
S54/38	G32/38				
S60/38 *	G42/38				
	G48/38				
	G60/38				
	G70/38				

* NO S222

Tables Pressure vs Temperature

PS = 16 Bar /
120 °C

S606 PS=20 Bar			S608 PS=16 Bar/110°C		
	Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2
Art. 4.3	0-2	0-6	Art. 4.3		Water/Glycol
I	4-6	8-24	I		
II	8-24	26-126	II		
III	26-126	128-280	III		
IV	128-280		IV		

PS = 20 Bar /
50 °C

S727 PS=20 Bar		
	Fluid. Gr-1	Fluid. Gr-2
Art. 4.3	0-8	0-8
I		10-56
II	10-56	58-276
III	58-276	278-300
IV	278-300	

PS = 30 Bar / 120°C

S6 PS=30 Bar			S7 PS=30 Bar			S9 PS=30 Bar			S22 PS=30 Bar		
	Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2
Art. 4.3	0-48	0-96	Art. 4.3	0-44	0-90	Art. 4.3	0-30	0-62	Art. 4.3	0-24	0-50
I	50-96	98-120	I	46-90	92-120	I	32-62	64-120	I	26-50	52-120
II	98-120		II	92-120		II	64-120		II	52-120	
III			III			III			III		
IV			IV			IV			IV		

S62 PS=30 Bar			S11-12 PS=30 Bar			S16 PS=30 Bar			S82/87/93 PS=30 Bar		
	Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2
Art. 4.3	0-20	0-42	Art. 4.3	0-22	0-46	Art. 4.3	0-20	0-40	Art. 4.3	0-16	0-26
I	22-42	44-160	I	24-46	48-120	I	22-40	42-120	I	18-26	28-110
II	44-160		II	48-120		II	42-120		II	28-110	112-200
III			III			III			III	112-200	
IV			IV			IV			IV		

S182 PS=30 Bar			S202 PS=30 Bar			S222 PS=30 Bar			S424 PS=30 Bar		
	Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2
Art. 4.3	0-2	0-4	Art. 4.3	0-6	0-12	Art. 4.3	0-16	0-26	Art. 4.3	0-10	0-14
I	4-4	6-22	I	8-12	14-48	I	18-26	28-100	I	12-14	16-56
II	6-22	24-118	II	14-48	50-240	II	28-100	102-240	II	16-56	58-240
III	24-118	120-280	III	50-240		III	102-240		III	58-240	
IV	120-280		IV			IV			IV		

S404 PS=30 Bar			S71 PS=30 Bar			S101 PS=30 Bar		
	Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2
Art. 4.3	0-2	0-4	Art. 4.3	0-16	0-26	Art. 4.3	0-12	0-24
I	4	6-22	I	18-26	28-110	I	14-24	26-102
II	6-22	24-118	II	28-110	112-200	II	26-102	104-240
III	24-118	120-280	III	112-200		III	104-240	
IV	120-280		IV			IV		

PS = 45 Bar / 120°C

S6H PS=45 Bar			S7H PS=45 Bar			S22H PS=45 Bar			S101H PS=45 Bar			187 PS=30 Bar		
	Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2
Art. 4.3	0-32	0-64	Art. 4.3	0-30	0-60	Art. 4.3	0-16	0-34	Art. 4.3	0-8	0-16	Art. 4.3	0-8	0-12
I	34-64	66-120	I	32-60	62-120	I	18-34	36-120	I	10-16	18-68	I	10-12	14-54
II	66-120		II	62-120		II	36-120		II	18-68	70-240	II	14-54	56-240
III			III			III			III	70-240		III	56-240	
IV			IV			IV			IV			IV		

S62H PS=45 Bar			S82H PS=45 Bar			S16H PS=45 Bar			85 PS=30 Bar		
	Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2
Art. 4.3	0-12	0-26	Art. 4.3	0-16	0-18	Art. 4.3	0-12	0-26	Art. 4.3	0-20	0-34
I	14-26	28-106	I	18	20-72	I	14-26	28-110	I	22-34	36-136
II	28-106	108-160	II	20-72	74-240	II	28-110	112-120	II	36-136	138-200
III	108-160		III	74-240		III	112-120		III	136-200	
IV			IV			IV			IV		

PS = 49 Bar / 150°C

S9H PS=49 Bar			S12H PS=49 Bar			87H/93H PS=49 Bar			S182H PS=49 Bar			85H PS=49 Bar		
	Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2
Art. 4.3	0-36	0-36	Art. 4.3	0-28	0-28	Art. 4.3	0-16	0-16	Art. 4.3	0-6	0-6	Art. 4.3	0-20	0-20
I		38-120	I		30-114	I		18-66	I		8-30	I		22-82
II	38-120		II	30-114	116-140	II	18-66	68-220	II	8-30	32-150	II	22-82	84-200
III			III	116-140		III	68-220		III	32-150	152-240	III	84-200	
IV			IV			IV			IV	152-240		IV		

S62H PS=49 Bar			S202H PS=49 Bar			S222H PS=49 Bar			S424H PS=49 Bar			S187H PS=49 Bar		
	Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2		Fluid. Gr-1	Fluid. Gr-2
Art. 4.3	0-24	0-24	Art. 4.3	0-6	0-6	Art. 4.3	0-16	0-16	Art. 4.3	0-10	0-10	Art. 4.3	0-8	0-8
I		26-106	I		8-30	I		18-62	I		12-34	I		10-34
II	26-106	108-150	II	8-30	32-150	II	18-62	64-240	II	12-34	36-168	II	10-34	36-170
III	108-150		III	32-150	152-240	III	64-240		III	36-168	170-280	III	36-170	172-240
IV			IV	152-240		IV			IV	170-280		IV	172-240	

GARANZIA

A - Onda S.p.A. garantisce l'assenza di vizi e difetti nella lavorazione e nei materiali nei Prodotti per 18 mesi dalla data della consegna.

Pertanto ove, durante il periodo di garanzia, i contestati difetti dei Prodotti risultino oggettivamente fondati e siano riconosciuti per iscritto da Onda S.p.A., quest'ultima provvederà gratuitamente alla riparazione o, a sua discrezione, alla sostituzione dei Prodotti difettosi, con consegna effettuata franco fabbrica (Ex Works – Incoterms 2000) Stabilimento di Onda S.p.A. in Via Lord Baden Powell, 11 – 36045 Lonigo (VI).

B - Pena di decadenza dalla garanzia, il Cliente dovrà denunciare per iscritto, a mezzo raccomandata con ricevuta di ritorno, i vizi o i difetti riscontrati entro e non oltre 10 (dieci) giorni dal ricevimento dei Prodotti o evidenziati dalla messa in funzione dell'impianto, oppure, trattandosi di vizi e/o difetti occulti, entro e non oltre 10 (dieci) giorni dalla scoperta degli stessi. In questo caso, l'onere della prova della data della scoperta graverà sul Cliente.

C - Onda S.p.A. garantisce inoltre che i Prodotti sono fabbricati in conformità alle leggi italiane e alle normative comunitarie vigenti alla data di conferma da parte di Onda S.p.A. del relativo ordine del Cliente.

Salvo diverso accordo scritto tra le parti, tutte le altre spese accessorie agli interventi di sostituzione e/o di riparazione, saranno a carico e a rischio del Cliente.

D - La garanzia è esclusa qualora i vizi o difetti dei Prodotti siano stati determinati dalle seguenti cause:

- Naturale usura e deterioramento.
- Riparazioni, manomissioni o modifiche non autorizzate.
- Uso e applicazione impropri.
- Eccessiva sollecitazione termica, anche occasionale.
- Eccessiva sollecitazione elettrica o meccanica.
- Mancato rispetto dei parametri funzionali e ambientali indicati da Onda S.p.A. per il corretto impiego e funzionamento dei Prodotti.
- Installazione dei Prodotti difforme da quella indicate nelle specifiche tecniche fornite da Onda S.p.A.
- Mancata messa a terra dello scambiatore.
- Qualsiasi altra causa imputabile a negligenza del Cliente.

E - La garanzia è inoltre esclusa in caso di:

- Eventuale non conformità dei Prodotti a normative italiane e/o comunitarie entrate in vigore dopo la data della trasmissione della conferma d'ordine di Onda S.p.A.;
- Eventuale non conformità dei Prodotti a leggi e/o normative in vigore nel luogo in cui i Prodotti sono installati e/o assemblati dal Cliente e/o nel luogo di finale utilizzazione dei Prodotti, qualora il Cliente non abbia espressamente richiesto la conformità dei Prodotti a tali leggi e/o normative e non abbia regolarmente informato ONDA S.p.A. del loro contenuto prima della data di trasmissione della conferma d'ordine di quest'ultima. Resta inteso che la presente limitazione si intende efficace anche con riferimento a specifiche normative vigenti in Stati dell'Unione Europea ed applicabili in via autonoma rispetto alle normative comunitarie.

F - Il Cliente non dovrà vendere o commercializzare Prodotti non conformi alle leggi e/o normative indicate nella precedente lettera E. In caso contrario, il Cliente manleva ONDA S.p.A. da ogni danno e/o perdita dalla stessa sofferto in seguito a contestazioni, sollevate in via giudiziale o stragiudiziale, da qualsiasi soggetto terzo o da pubblica autorità in conseguenza della fabbricazione da parte di ONDA S.p.A. di prodotti non conformi alle summenzionate leggi e/o normative.

G - Ferma restando l'applicazione del DPR 224/1988, in materia di responsabilità per danno da prodotti difettosi, e la responsabilità di Onda S.p.A. in caso di dolo o colpa grave, quest'ultima non sarà in alcun caso responsabile per i danni diretti, indiretti o incidentali che dovessero in qualsiasi modo derivare dalla difettosità dei Prodotti.

WARRANTY

A - Onda S.p.A. warrants that the Products shall be free from defects in material and workmanship for a period of 18 months from the date of the delivery.

Therefore, should Onda S.p.A., within the warranty period, acknowledge and recognise in writing the existence of the defects in the products and said defects be materially grounded, Onda S.p.A. shall, at its discretion, repair the defective Products at no costs for the Client or replace them by delivering the substitutive products Ex works (Incoterms 2000) at Onda S.p.A.'s premises (Via Lord Baden Powell, 11 – 36045 Lonigo (VI) – Italy).

B - Subject to loss of the warranty, notice of any defect shall be given by the Client in writing with return receipt registered letter within, and not later than, 10 (ten) days from the date of receipt of the products or from the start up of the plant. Subject to loss of the warranty, notice of any latent defect of the Products by the Client shall be given in writing, by return receipt registered letter, within and not later than 10 (ten) days from the date of the relevant discovery. It is hereby understood that the burden of the proof of the date of the discovery shall be borne by the Client.

C - Onda S.p.A. also warrants that the Products are manufactured in compliance with the Italian and European Laws and Regulations in force on the date of the confirmation by Onda S.p.A. of the relevant Client's order. Unless otherwise expressly agreed in writings by the parties, Client shall bear any other additional expenses related to the operations of repairing or replacing of the defective products.

D - This warranty shall not apply should the defects of the Products be caused by:

- Natural wear and tear.
- Unauthorised repairs, interventions or modifications.
- Unsuitable use or application.
- Thermal overexposure, also when occasional.
- Electrical or mechanical over-stress.
- Failure of respecting the functional and environmental parameters suggested by Onda S.p.A. for the correct use and exploitation of the products.
- Installation of the products not in compliance with the technical specifications provided by Onda S.p.A.
- Missing earth grounding.
- Any other cause due to the Client's negligence.

E - This warranty shall also not apply in case of:

- Non compliance of the Products with Italian and European Laws and/or Regulations entered in force after the date of transmission of the order confirmation by Onda S.p.A..
- Non compliance of the Products with Laws and/or Regulations in force in the place where the Products are installed and/or assembled by the Client and/or in the place of their final use, should the Client not expressly require the conformity of the Products to said Laws and Regulations and not duly inform Onda S.p.A. of their content before the date of transmission of the latter's order confirmation. This limitation of the warranty is also applicable with reference to peculiar Laws and Regulations valid and binding in States of the European Union independently of the European Laws and Regulations.

F - The Client shall not sell or market Products not in compliance with the Laws and Regulations mentioned under letter E above. In the negative, the Client shall keep ONDA S.p.A. harmless of any damage or loss suffered by the latter, due to any third party's and/or authority's claim raised as a consequence of the manufacture by ONDA S.p.A. of Products not in compliance with the above mentioned Laws and Regulations.

G - Without prejudice to the application of DPR 224/1988 on product liability and liability for gross negligence or wilful misconduct, Onda S.p.A. shall never be liable for direct, indirect or occasional damages which in any manner derived from defective products.



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