1.05	HEAT EXCHANGERS

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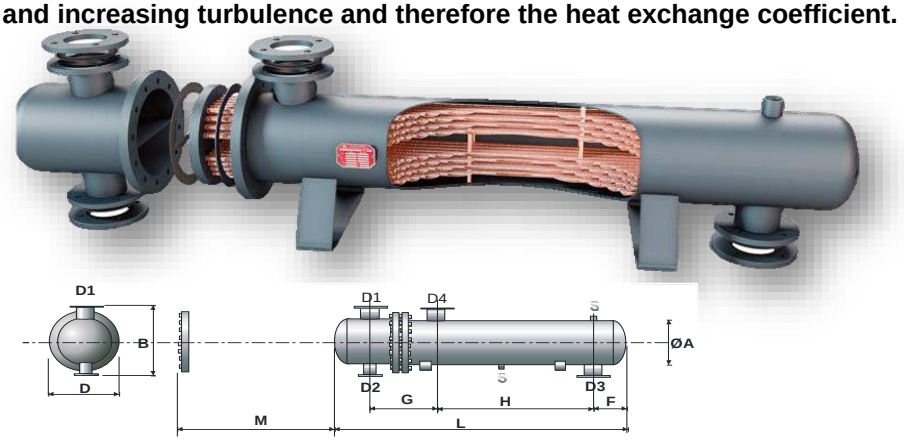
SC 010 SHELL AND PIPE HEAT EXCHANGER

This type of exchanger is to be preferred over others when one needs to exchange very large quantities of heat, because its surfaces can even extend to tens of thousands of square metres.
It is made up of a shell and inner pipes expanded or welded to a thick plate.
Trasversal metal plates may be present in the shell, with the purpose of controlling the hydraulic system and increasing turbulence and therefore the heat exchange coefficient.



please fill the follow Data for a good choice			
Description	Unit	1°	2°
Kind of fluid			
Fluid pressure	bar		
Fluid Unit Weight	ɣ		
In Temp.	°C		
Out Temp.	°C		
Max Temp	°C		
Capacty	Kg/h		
Flow resistance	m.w.c		
Power	Kcal/h		

SC 030 HEAT EXCHANGER WITH CORRUGATED PIPE

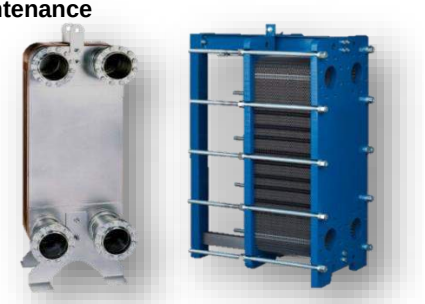
FIELDS APPLICATION :It's used in heat exchange between medium viscosity products even in the presence of small suspended particulates
CORRUGATION : It's a process made on the smooth pipe in order to obtain a turbulence with a higher exchange surface. The increase in exchange rates varies from 40% to 90%
MATERIALS : AISI 304 - AISI 316 - others on request
PRESSURE NOMINAL : PN 10 - PN 16
TEMPERATURE : from +193°C upto +210°C
CONNECTION : UNI - DIN - ANSI flanges
BENEFITS : Heat transfer surfaces reduction
: Contact time reduction
: Faster washing or easy to clean
: Both horizontal or vertical installation
: no gaskets = lower maintenance costs
: May be use in higt conditions of pressure and temperatur

SC 050 GASKETED PLATE HEAT EXCHANGERS

The plate exchanger is made up of a variable number of steel perforated plates. The primary fluid flows inside of half of each plate, the secondary fluid flows to the other half of each plate.
There are two different types of trade on the market, with brazed plates and interchangeable plates
Generally assembled with tie rods, interchangeable plate models allow inspection and maintenance

BENEFITS
- small dimensions
- higher heat exchange
- higher upstream levels
- cheaper
- modular
- you can dismantle it so it is easier to clean

DOWNSIDES
- lower temperature
- lower pressure
- surfaces get dirty easily



The welded models offer better performance and higher pressures

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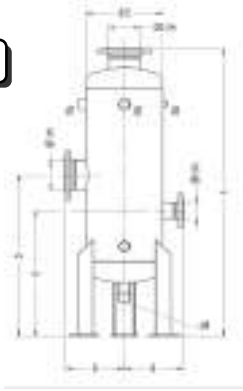
RV — FLASH VESSELS

SEE AVAILABLE MODELS

- **OPTIONS**
  Complete stainless steel construction.
  Installation supports on body (without supporting feet).
- **USE**
  High pressure condensate.
  Boiler blowdown heat recovery systems.
- **MODELS**
  RV…A/S; RV…L/S - carbon steel body.
  RV…A/SS; RV…L/SS - st. steel body.
  (A-angle ; L-inline connections)
- **CONNECTIONS**
  Flanged EN 1092-1 PN 16
  Special flanges upon request.
- **INSTALLATION**
  Vertical installation.
  Horizontal condensate inlet and outlet or alternative horizontal inlet and vertical condensate outlet.
  See AD (Assembling drawing)

RV/A

RV/L



CE MARKING (PED - European Directive)		
RATING	SIZE	CAT.
PN16	RV06	2
	RV08	2
	RV12	3
	RV16	3
	RV18	3

CE Marking: This product has been designed for use on water, steam, air and other gases which are in Group 2 of the European PED-Pressure Equipment Directive in use and it complies with those requirements.
The product carries the CE mark when falling in category 1 and above.

APPROXIMATE DIMENSIONS (mm) — FLANGED EN 1092-1 - ANSI																	
MODEL	A	A1	B	C	D	D1	E	F	G	W	I	I1	d1	d2	d3	d4	WGT Kg
RV 06	1400	1200	185	170	600	600	635	90	50	60	853	-	3/4"	2"	1/2"	1"	99
RV 08	1600	1300	210	220	610	610	645	80	80	60	908	-	1"	2"	1/2"	1"	99
RV 12	1540	1340	265	325	636	630	660	100	100	60	908	-	1 1/2"	2"	1/2"	1"	93
RV 16	1660	1460	310	410	636	730	725	150	150	80	990	-	1 1/2"	2"	1/2"	1 1/2"	148
RV 18	1610	1410	330	490	966	765	755	150	150	80	-	485	2"	2"	1/2"	1 1/2"	174

Consult factory for certified dimensions. Dimensions subject to change without notice.
Other sizes can be supplied on request.

MATERIALS		
DESIGNATION	RV/ST/S	RV/ST/SS
Heads and shell	P265GH / 1.0425 ; P235GH / 1.0305	AISI316 / 1.4401; AISI316L / 1.4404
Inlet / Outlet pipes	P235GH / 1.0305	AISI316 / 1.4401
EN flanges	P250GH / 1.0460	AISI316 / 1.4401
ANSI Flanges	ASTM A105 / 1.0432	AISI316 / 1.4401
Sockets	ASTM A105 / 1.0432	AISI316 / 1.4401
Supports	S235 JR / 1.0038	AISI304 / 1.4301

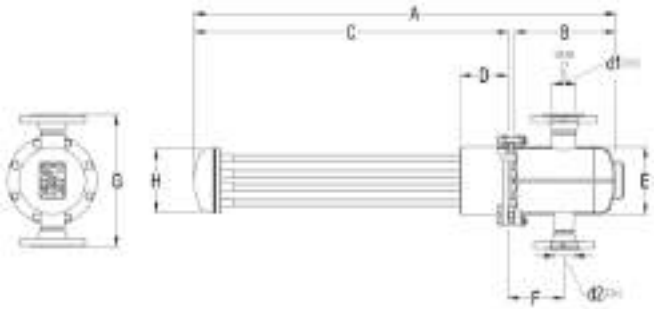
LIMITING CONDITIONS **											
	RV/S					RV/SS					
Rating	Press. bar	Temp. °C	Rating	Press. bar	Temp. °C	Rating	Press. bar	Temp. °C	Rating	Press. bar	Temp. °C
PN16	16	50	ANSI CL150 lbs	16	50	PN16	16	50	ANSI CL 150lbs	16	50
	14	100		14	100		16	100		16	100
	13 *	195		13 *	195		13*	195		13 *	195
	12	250		-	-		12	250		-	-

*PMO-Max.operating pressure for saturated steam. Minimum operating temp. : -10°C. Design code: AD-Merkblatt
** Rating according to EN1092-2007.

R — ADCATHERM - R Series Tubular Heating Coils (Steam to water)

SEE AVAILABLE MODELS

- **OPTIONS**
  Special designs.
  USE
  Steam, water, hot condensate and other fluids compatible with the construction.
- **MODELS**
  R5, R6, R8 and R10
- **CONNECTIONS**
  Flanged according to EN 1092-1 or ANSI standards.
  Screwed on request.
- **INSTALLATION**
  Horizontally on vertical or horizontal vessels.
  Steam runs inside the tubes and process water outside.



MATERIALS	
DESIGNATION	MATERIAL
Tube bundle	AISI316L / 1.4404
Tubes heet	AISI316 / 1.4401
Heads	S235 JR G2 / 1.0038 ; P235GH / 1.0305
Inlet / Outlet pipes	P235GH / 1.0305
EN flanges	P250GH / 1.0460
ANSI Flanges	ASTM A105 / 1.0432
Sockets	ASTM A105 / 1.0432
Supports	S235 JR G2 / 1.0038

EN 10204 3.1 certificate available if requested with the order.

DIMENSIONS										
Model	A	B	C	D	E	F	G	H	d1	d2
R5.075	1010	234	762	130	139	145	340	128	40	25
R5.100	1260	234	1012	130	139	145	340	128	40	25
R5.150	1760	234	1512	130	139	145	340	128	40	25
R6.075	1040	264	770	130	168	145	368	157	65	40
R6.100	1290	264	1020	130	168	145	368	157	65	40
R6.150	1790	264	1520	130	168	145	368	157	65	40
R8.075	1060	264	780	130	220	145	420	204	80	50
R8.100	1310	264	1030	130	220	145	420	204	80	50
R8.150	1810	264	1530	130	220	145	420	204	80	50
R10.075	1097	304	775	130	273	145	473	257	80	50
R10.100	1347	304	1025	130	273	145	473	257	80	50
R10.150	1847	304	1525	130	273	145	473	257	80	50

d1 and d2 connections sized according with the flow conditions.
Dimensions are subject to change without notice.
Since each coil is built to suit specific plant requirements please consult factory for certified dimensions and weight.
Other sizes and designs can be supplied under request.

CE MARKING - GROUP 2 GASES CATEGORIES		
RATING	MODEL	CAT.
PN16	R5.075 to R5.150	1
	R6.075 to R6.150	1
	R8.075 to R8.150	2
	R10.075 to R10.150	2

CE Marking :
This product has been designed for use on water and steam which are in Group 2 of the PED-European Pressure Equipment Directive 97/23/EC and it comply with those requirements. The product carries the CE mark.

LIMITING CONDITIONS **					
Rating	Press. bar	Temp. °C	Rating	Press. bar	Temp. °C
PN16	16	50	ANSI CL150 lbs	16	50
	14	100		14	100
	13 *	195		13 *	195
	12	250		-	-

*PMO-Max.operating pressure for saturated steam.
Minimum operating temp. : -10°C. Design code: AD-Merkblatt
** Rating according to EN1092-2007

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STS

ADCATHERM – STS Series
SHELL AND TUBE HEAT EXCHANGERS
(Steam to water – Vertical installation)

SEE AVAILABLE MODELS

- **OPTIONS**
  Horizontal installation
- **USE**
  Steam, water, hot condensate and other fluids compatible with the construction.
- **MODELS**
  STSV – Vertical installation
  STSH – Horizontal installation (optional)
- **INSTALLATION**
  Vertical or horizontal (different condensate heads execution).

CE Marking :
The product have been designed for use on water and steam which are in Group 2 of the PED-European Pressure Equipment Directive 97/23/EC and it comply with those requirements.
The product carries CE mark.

CE MARKING - GROUP 2 GASES CATEGORIES			
RATING	MODEL	CATEGORY Tube side	CATEGORY Shell side
PN10	STSV 3.075 to 8.150	I	SEP

LIMITING CONDITIONS (Tube and shell)**					
Rating	Press. bar	Temp. °C	Rating	Press. bar	Temp. °C
PN10	10	50	ANSI CL.150lbs	10	50
	16	100		16	100
	13,7	106		13,7	106
	12	200		-	-

*PMO-Max operating pressure for saturated steam
Minimum operating temp.: -10°C Design code: AD-Merkblatt
** Rating according to EN1092-2007

Model	DIMENSIONS													
	A	B	C	D	E	F	G	H	d1*	d2*	d3*	d4*	d5	d6
STSV 3.075	1048	225	595	225	250	105	145	100	40	25	1 1/2"	1 1/2"	1/2"	3/4"
STSV 3.100	1298	225	845	225	250	105	145	100	40	25	1 1/2"	1 1/2"	1/2"	3/4"
STSV 3.150	1798	225	1345	225	250	105	145	100	40	25	1 1/2"	1 1/2"	1/2"	3/4"
STSV 4.075	1075	240	595	240	274	117	157	125	40	25	1 1/2"	1 1/2"	1/2"	3/4"
STSV 4.100	1325	240	845	240	274	117	157	125	40	25	1 1/2"	1 1/2"	1/2"	3/4"
STSV 4.150	1825	240	1345	240	274	117	157	125	40	25	1 1/2"	1 1/2"	1/2"	3/4"
STSV 5.075	1086	251,5	595	251,5	300	130	170	154	50	40	2"	2"	1/2"	3/4"
STSV 5.100	1346	251,5	845	251,5	300	130	170	154	50	40	2"	2"	1/2"	3/4"
STSV 5.150	1848	251,5	1345	251,5	300	130	170	154	50	40	2"	2"	1/2"	3/4"
STSV 6.075	1126	265,5	595	265,5	330	145	185	182	65	40	2"	2"	1/2"	3/4"
STSV 6.100	1376	265,5	845	265,5	330	145	185	182	65	40	2"	2"	1/2"	3/4"
STSV 6.150	1876	265,5	1345	265,5	330	145	185	182	65	40	2"	2"	1/2"	3/4"
STSV 8.075	1136	280,5	595	280,5	380	170	210	232	80	50	2 1/2"	2 1/2"	1/2"	3/4"
STSV 8.100	1436	280,5	845	280,5	380	170	210	232	80	50	2 1/2"	2 1/2"	1/2"	3/4"
STSV 8.150	1936	280,5	1345	280,5	380	170	210	232	80	50	2 1/2"	2 1/2"	1/2"	3/4"

* Connections shown are only indicative. Final sizes will be attributed after order and considering the effective flow rates.

MATERIALS	
DESIGNATION	MATERIAL
Tube bundle	AISI316L / 1.4404
Tubesheet	AISI316 / 1.4401
Heads and shell	AISI316/1.4401 ; AISI316L / 1.4404
Inlet / Outlet pipes	AISI316 / 1.4401
EN flanges	AISI316 / 1.4401
ANSI Flanges	AISI316 / 1.4401
Sockets	AISI316 / 1.4401
Supports	AISI304 / 1.4301

EN 10204 3.1 certificate available if requested with the order.
All 316L / 1.4404 on request.

STH

ADCATHERM - STH Series
Shell and Tube Heat Exchangers
(Steam to water - Horizontal installation)

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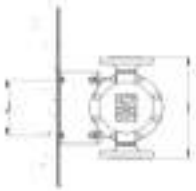
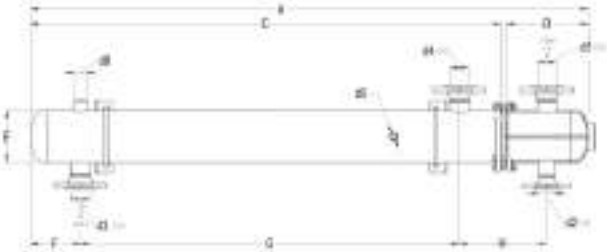
- **OPTIONS**
  Horizontal installation
- **USE**
  Steam, water, hot condensate and other fluids compatible with the construction.
- **MODELS**
  STSV – Vertical installation
  STSH – Horizontal installation (optional)
- **INSTALLATION**
  Vertical or horizontal (different condensate heads execution





CE Marking : This product has been designed for use on water and steam which are in Group 2 of the PED-European Pressure Equipment Directive 97/23/EC and it comply with those requirements. The product carries the CE mark.

CE MARKING - GROUP 2 GASES CATEGORIES			
RATING	MODEL	CATEGORY Tube side	CATEGORY Shell side
PN16	STH4.075 to 4.150	I	SEP
	STH5.075 to 5.150	I	SEP
	STH6.075 to 6.150	I	SEP
	STH8.075 to 8.150	II	SEP
	STH10.075 to 10.150	II	SEP
	STH8.075 to 8.150	II	SEP
	STH10.075 to 10.150	II	SEP
	STH12.075 to 12.150	II	SEP

LIMITING CONDITIONS *					
Rating	Press. bar	Temp. °C	Rating	Press. bar	Temp. °C
PN16	16	50	ANSI CL.150 lbs	16	50
	14	100		14	100
	13,7	106		13,7	106
	12	200		-	-

*PMO-Max operating pressure are for saturated steam
Minimum operating temp.: -10°C Design code: AD-Merkblatt
** Rating according to EN1092-2007

MATERIALS		
DESIGNATION	STH5	STH30
Tube bundle	AISI316L / 1.4404	AISI316L / 1.4404
Tubesheet	AISI316 / 1.4401	AISI316 / 1.4401
Heads and shell	S235JR(G2) / 1.0038 P235GH / 1.0345	AISI316 / 1.4401 AISI316L / 1.4404
Inlet / Outlet pipes	P235GH / 1.0345	AISI316 / 1.4401
EN flanges	P250GH / 1.0460	AISI316 / 1.4401
ANSI Flanges	ASTM A105 / 1.0432	AISI316 / 1.4401
Sockets	ASTM A105 / 1.0432	AISI316 / 1.4401
Supports	S235JR(G1) / 1.0038	AISI304 / 1.4301

EN 10204 3.1 certificate available if requested with the order.

DIMENSIONS														
Model	A	C	D	E	F	G	H	I	J	d1	d2	d3	d4	d5	d6
STH4.075	965	785	166	114	120	550	207	314	116	50	25	50	50	1/2"	3/4"
STH4.100	1215	1035	166	114	120	800	207	314	116	50	25	50	50	1/2"	3/4"
STH4.150	1715	1535	166	114	120	1300	207	314	116	50	25	50	50	1/2"	3/4"
STH5.075	1050	790	245	140	160	510	276	340	150	65	40	65	65	1/2"	3/4"
STH5.100	1300	1040	245	140	160	760	276	340	150	65	40	65	65	1/2"	3/4"
STH5.150	1800	1540	245	140	160	1260	276	340	150	65	40	65	65	1/2"	3/4"
STH6.075	1003	820	255	168	180	500	288	368	180	65	40	65	65	1/2"	3/4"
STH6.100	1343	1070	255	168	180	750	288	368	180	65	40	65	65	1/2"	3/4"
STH6.150	1843	1570	255	168	180	1250	288	368	180	65	40	65	65	1/2"	3/4"
STH8.075	1176	840	320	220	197	487	304	420	230	80	50	80	80	1/2"	1"
STH8.100	1426	1090	320	220	197	737	304	420	230	80	50	80	80	1/2"	1"
STH8.150	1926	1590	320	220	197	1237	304	420	230	80	50	80	80	1/2"	1"
STH10.075	1186	855	306	273	205	448	356	473	285	80	50	80	80	1/2"	1"
STH10.100	1436	1105	306	273	205	698	356	473	285	80	50	80	80	1/2"	1"
STH10.150	1936	1605	306	273	205	1198	356	473	285	80	50	80	80	1/2"	1"
STH12.075	1307	877	407	324	277	400	430	540	336	100	50	100	100	1/2"	1"
STH12.100	1557	1127	407	324	277	650	430	540	336	100	50	100	100	1/2"	1"
STH12.150	2057	1627	407	324	277	1150	430	540	336	100	50	100	100	1/2"	1"

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STV

ADCATHERM - STV Series
Shell and Tube Heat Exchangers
(Steam to water - Vertical installation)

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- **OPTIONS**
  Horizontal installation, see STH catalogue.
- **USE**
  Steam, water, hot condensate and other fluids compatible with the construction.
- **MODELS**
  STV/S – Carbon steel shell
  STV/SS – Complete st. steel
- **CONNECTIONS**
  Flanged or screwed, according to EN 1092-1 or ANSI standards.
- **INSTALLATION**
  Wall mounting or floor with special supports.
  Steam runs inside the tubes and process water outside.

MATERIALS		
DESIGNATION	*STV/S*	*STV/SS*
Tube bundle	AISI316L / 1.4404	AISI316L / 1.4404
Tubesheet	AISI316 / 1.4401	AISI316 / 1.4401
Heads and shell	S235 JRG2 / 1.0038 ; P235GH / 1.0305	AISI316 / 1.4401; AISI316L / 1.4404
Inlet / Outlet pipes	P235GH / 1.0305	AISI316 / 1.4401
EN flanges	P250GH / 1.0460	AISI316 / 1.4401
ANSI Flanges	ASTM A105 / 1.0432	AISI316 / 1.4401
Sockets	ASTM A105 / 1.0432	AISI316 / 1.4401
Suports	S235 JRG2 / 1.0038	AISI304 / 1.4301

EN 10204 3.1 certificate available if requested with the order.

CE MARKING - GROUP 2 GASES CATEGORIES			
RATING	MODEL	CATEGORY Tube side	CATEGORY Shell side
PN16	STV4.075 to 4.150	1	SEP
	STV5.075 to 5.150	1	SEP
	STV6.075 to 6.150	1	SEP
	STV8.075 to 8.150	2	SEP
	STV10.075 to 10.150	2	SEP
	STV12.075 to 12.150	2	SEP

CE Marking :
This product has been designed for use on water and steam which are in Group 2 of the PED-European Pressure Equipment Directive 97/23/EC and it comply with those requirements.
The product carries the CE mark.

LIMITING CONDITIONS **					
Rating	Press. bar	Temp. °C	Rating	Press. bar	Temp. °C
PN16	16	50	ANSI Cl.150 lbs	16	50
	14	100		14	100
	13 *	195		13 *	195
	12	250		-	-

*PMO-Max operating pressure for saturated steam.
Minimum operating temp.: -10°C. Design code: AD-Merkblatt
** Rating according to EN1092:2007.

DIMENSIONS															
Model	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*d1*	*d2*	*d3*	*d4*	*d5*	*d6*
STV4.075	965	28	785	166	114	120	550	207	314	50	25	50	50	1/2"	3/4"
STV4.100	1215	28	1035	166	114	120	800	207	314	50	25	50	50	1/2"	3/4"
STV4.150	1715	28	1535	166	114	120	1300	207	314	50	25	50	50	1/2"	3/4"
STV5.075	1050	35	790	245	140	160	510	276	340	65	40	65	65	1/2"	3/4"
STV5.100	1300	35	1040	245	140	160	760	276	340	65	40	65	65	1/2"	3/4"
STV5.150	1800	35	1540	245	140	160	1260	276	340	65	40	65	65	1/2"	3/4"
STV6.075	1093	40	820	255	168	180	500	288	368	65	40	65	65	1/2"	3/4"
STV6.100	1343	40	1070	255	168	180	750	288	368	65	40	65	65	1/2"	3/4"
STV6.150	1843	40	1570	255	168	180	1250	288	368	65	40	65	65	1/2"	3/4"
STV8.075	1176	55	840	320	220	197	487	304	420	80	50	80	80	1/2"	1"
STV8.100	1426	55	1090	320	220	197	737	304	420	80	50	80	80	1/2"	1"
STV8.150	1926	55	1590	320	220	197	1237	304	420	80	50	80	80	1/2"	1"
STV10.075	1185	60	855	306	273	205	448	356	473	80	50	80	80	1/2"	1"
STV10.100	1435	60	1105	306	273	205	698	356	473	80	50	80	80	1/2"	1"
STV10.150	1935	60	1605	306	273	205	1198	356	473	80	50	80	80	1/2"	1"
STV12.075	1307	80	877	407	324	277	400	430	540	100	50	100	100	1/2"	1"
STV12.100	1557	80	1127	407	324	277	650	430	540	100	50	100	100	1/2"	1"
STV12.150	2057	80	1627	407	324	277	1150	430	540	100	50	100	100	1/2"	1"

∅ d1 to d4 connections sized according with the flow conditions.
Dimensions are subject to change without notice.
Consult factory for certified dimensions and weight.
Other sizes and designs can be supplied under request.
The pipe connections are sized considering the correct thermal insulation possibility . The insulation it's not included but it is recommended to be done after the installation.