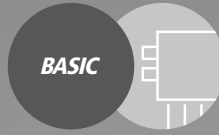


# X-RAY 11R

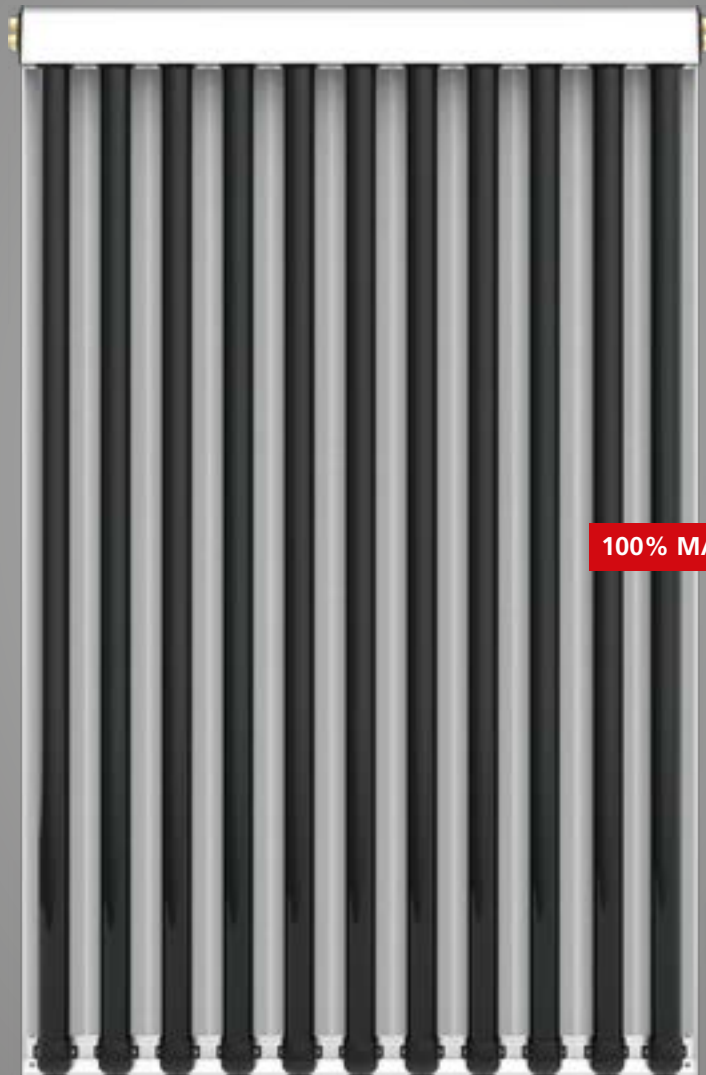
VACUUM SOLAR COLLECTORS



III°  
INCORPORATED  
PIPE



2 PIPES



100% MADE IN PLEION

COLLECTOR  
WARRANTY  
**5.5**  
YEARS

\*EXTENDABLE

PIPE  
WARRANTY  
**10**  
YEARS

ANTI-HAIL

## X-RAY 11R

VACUUM SOLAR COLLECTORS



**VERY HIGH PERFORMANCE**

**581 kWh/m<sup>2</sup> year**  
Wurzburg 50°

### MODERN DESIGN AND ABSOLUTELY EASY INSTALLATION

Assembly time reduced to the minimum.

#### CPC TECHNOLOGY

TUBES	11
Base [mm]	1216
Height (tubes direction) [mm]	1921
Thickness [mm]	114
Gross surface area [m <sup>2</sup> ]	2,34
Aperture area [m <sup>2</sup> ]	2,11
Absorber surface 360°	2,82
Fluid content	1,96

#### X-RAY 11R - PERFOMA

**PARALLEL CONNECTIONS UP TO 15% GREATER ENERGY OUTPUT**

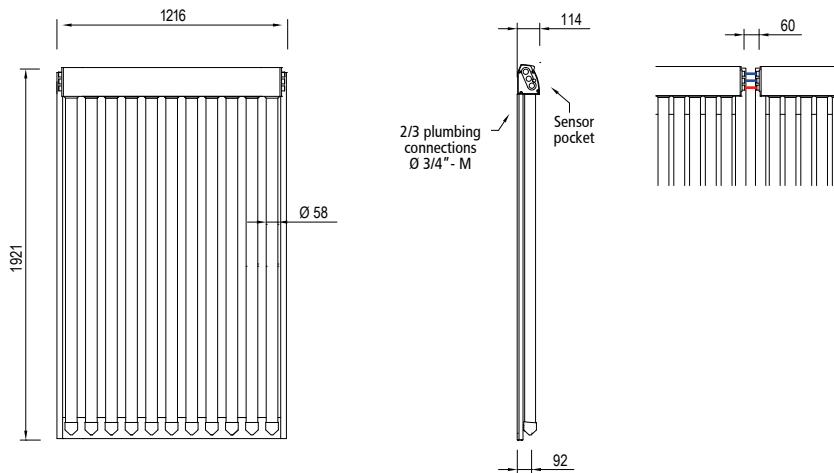
#### TOP PERFORMANCES IN WINTER TIME

Perfectly functioning even when the temperature drops drastically

#### 3<sup>RD</sup> INTEGRATED PIPE

**INTEGRATED PLUMBING CONNECTIONS: THE TUBE VANISHES, AND PROGRESS TAKES OVER.**

No tubes are displayed on the roof: an integrated return line is installed in the collector-header.



Code	Beschreibung	Pries
<b>1010101101</b>	X-RAY 11R VACUUM SOLAR COLLECTOR - BASIC	-
<b>1010101103</b>	X-RAY 11R VACUUM SOLAR COLLECTOR - PERFOMA	-

#### APPLICATIONS



#### USES



Fraunhofer

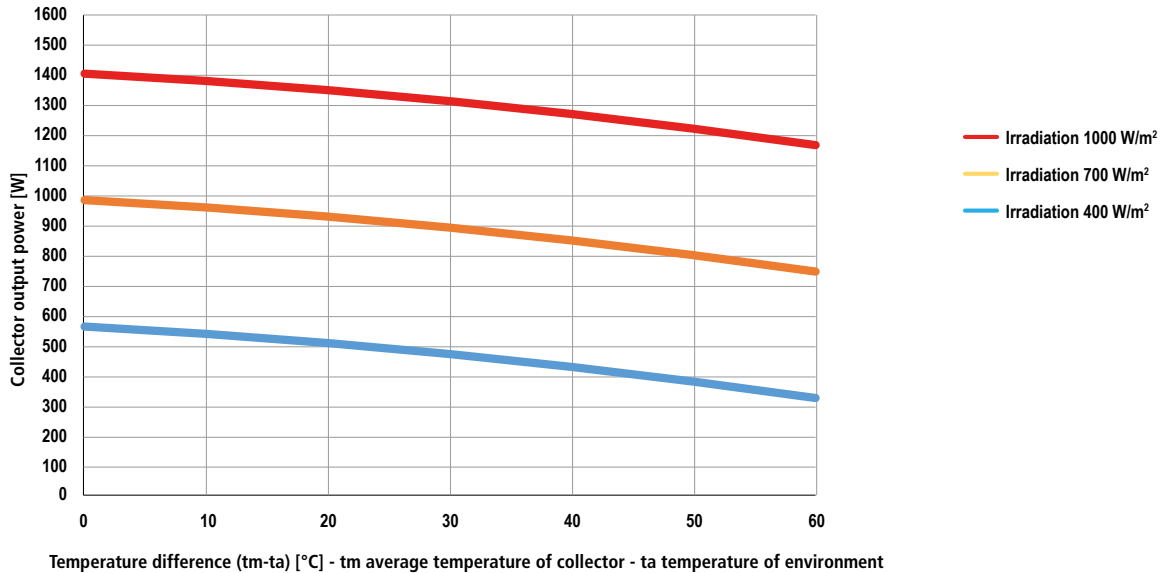


# X-RAY 11R

## TECHNICAL SPECIFICATIONS

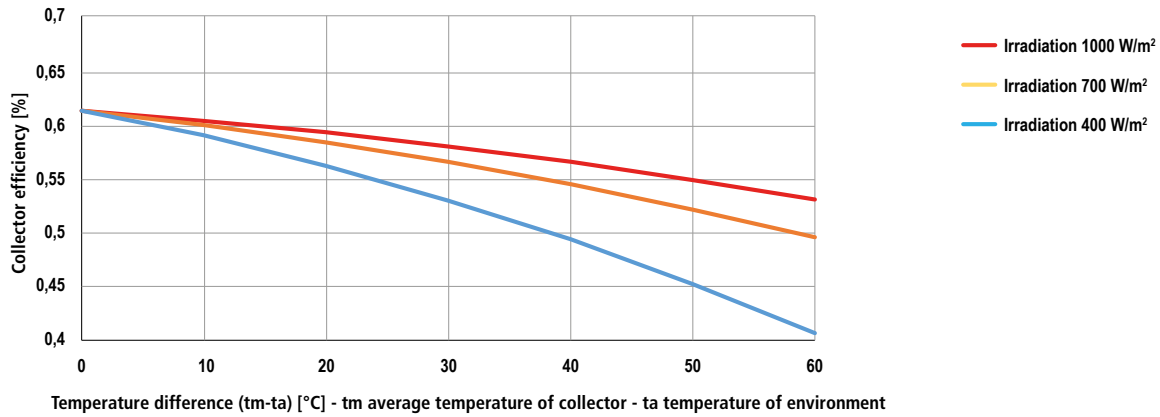
TECHNICAL SPECIFICATIONS		
Vacuum tubes	N°	11
Maximum number of collectors in battery	N°	10
Anchorage devices	N°	4 o 6
Dimensions of anchorage devices	Ø inch	3/4 " M
Open surface	m²	2,11
Absorption surface	m²	2,82
Gross surface	m²	2.34
Dimensions (LxHxD)	mm	1216 x 1921 x 114
Thickness of tested insulation, curved insulation in aluminised fibre glass.	mm	30
Diameter-length of vacuum tubes	mm	58/47 - 1800
Recommended inclination	°	15 - 75
Weight	kg	43,6
Content of heat-transfer fluid	litri	1,96
PERFORMANCES		
$\eta_0$ Optical yield (ref. light absorption surface)	%	60,0
k1 transmission coefficient (ref. light absorption surface)	W/m²K	0,910
k2 transmission coefficient (ref. light absorption surface)	W/m²K²	0,013
Nominal power	W	1404
Factor of angle correction incidence	K50°	1,05
Thermal capacity (ref. light absorption surface)	kJ/m²K	34
Energy produced annually EN 12975 – Wurzburg – Temperature 50°C	kWh	1359
EN 12975-2 test Report	-	RP.2018.COL.202a.1
DIN CERTCO registration number	-	16084 Rev.0 KIWA
Recommended capacity per collector	l/h	1,65
Stagnation temperature	°C	176
Maximum pressure	bar	10

**POWER CURVES** of X-RAY 11R collector according to change in irradiation 400-700-1000 W/m² and temperature difference.

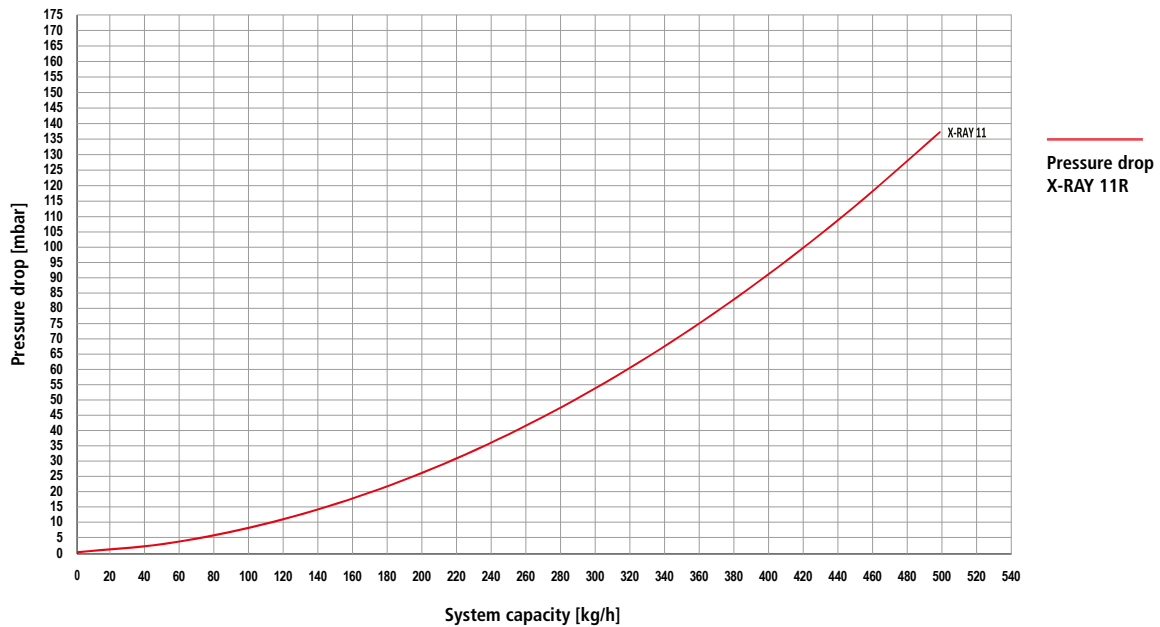


POWER P[W]			
tm-ta [°C]	I=400 [W/m²]	I=700 [W/m²]	I=1000 [W/m²]
0	562	983	1404
10	537	958	1380
20	507	928	1349
30	470	892	1313
40	428	849	1270
50	379	800	1221
60	324	746	1167

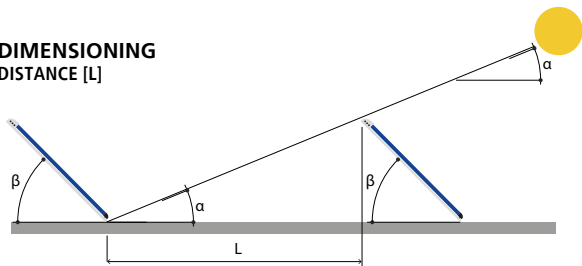
**PERFORMANCE CURVES** of X-RAY 11R collector according to change in irradiation 400-700-1000 W/m<sup>2</sup> and temperature difference.



**PRESSURE DROP** of X-RAY 11R according to change in irradiation 400-700-1000 W/m<sup>2</sup> and temperature difference.



**DIMENSIONING DISTANCE [L]**



Inclination of solar rays $\alpha$ [°]	Inclination of solar collector $\beta$ [°]		
	35°	45°	50°
15	4,1	5,1	5,5
25	2,3	2,8	3
35	1,5	2	2,2

**PIPE DIMENSIONING FOR CONNECTING COLLECTORS TO THE BOILER**

Number of collectors	Recommended capacity [l/h]	Pipes Cu $\varnothing_e/\varnothing_i$ [mm]
1	100	18/16
2	200	18/16
3	300	18/16
4	400	22/20
5	500	22/20
6	600	28/25

**DIMENSIONS AND MAX AREA REQUIRED\***

Number of collectors	Width on sloping roof [mm]
1	1216
2	2495
3	3770
4	5045
5	6320
6	7600

\* the values refer to the Pleion fixing brackets