CATALOGUE

TJHU / TJFU

LEADERSHIP & INNOVATION

CATALOGUE
TJHU - TJFU

Soler&Palau
Ventilation Group

ANSI/AMCA STANDARD 250-22

Laboratory Methods for Jet Fan Performance Testing.

The operation of a jet fan is influenced by several factors, such as tunnel wall friction, inlet and outlet losses, traffic resistance, gradients, and wind effects at the tunnel portals. These elements contribute to a pressure drop along the tunnel. This pressure drop is compensated for by the pressure increase generated by the jet fans, which results from the transfer of momentum between the airflow discharged by the fan and the airflow within the tunnel.

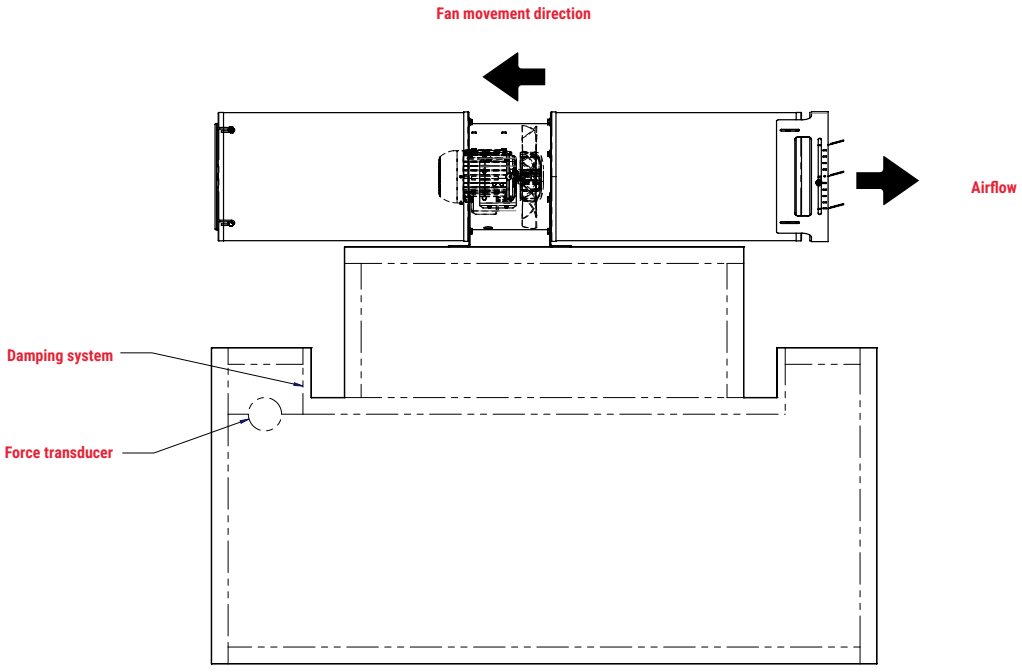
Since it is impossible to directly measure the momentum of the airflow discharged by the fan, thrust is measured instead. The rate of change of momentum is equal and opposite to the thrust, making thrust the key performance parameter in this context. This method allows for an accurate representation of the fan's capacity to influence flow behavior within the tunnel.

The performance ratings for the TJ series equipment were obtained in accordance with the ANSI/AMCA 250-22 standard, Installation Figure 4C.

The thrust measurement design shown in Figure 4C utilizes a supported method that includes a damping system and a force transducer to precisely measure the thrust generated by the fan.

The damping system is employed to support and absorb the thrust generated by the fan's airflow. These springs allow for accurate force measurement without interfering with the fan's natural behavior during testing.

The force transducer is a highly precise measuring device that converts the applied force (in this case, the thrust) into a proportional electrical signal. The load cell is installed in such a way that it measures the thrust directly and reliably.



Instalación Figura 4C

TJHU-TJFU

Unidirectional axial impulse jet fan, designed to move large volumes of air in parking garages, tunnels, and all types of large spaces.

Model TJHU: rated for immersion at 400°C/2h and 300°C/2h for smoke extraction in case of emergencies and for the reduction of pollution levels in underground parking garages.

Model TJFU: designed to move large volumes of contaminated air at ambient temperature.

FEATURES

- Unidirectional impeller, aluminum alloy, dynamically balanced to Grade G 6.3 in accordance with ISO 1940 or AMCA 204.
- Casing and mounting brackets in steel with a polyester powder coating finish.
- Terminal box or isolation switch available upon request.
- Protection guard on the inlet and deflector on the discharge.
- Certified equipment in accordance with the EN 12101-3 standard for 400°C/2h and 300°C/2h.
- Two-speed three-phase motors with IP 55 protection
- Operating ambient temperature: -20°C to 40°C.

400°C/2h — Certified according to EN 12101-3 standard. Certification No. 0370-CPD-0672 0370-CPD-1481

300°C/2h — Certified according to EN 12101-3 standard. Certification No. 0370-CPD-0673 0370-CPD-1422

amca WORLDWIDE CERTIFIED RATINGS — JET FAN THRUST AND SOUND — AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC.

APLICATIONS

EXTRACTION OF COMMON POLLUTANTS | SMOKE DISSIPATION | PARKING LOTS | ENTRANCE TUNNELS | EMERGENCY SMOKE EXTRACTION

NOMENCLATURE

HIGH TEMPERATURE						
Model	**Number of poles**	**Nominal Diameter**	**Motor Power (KW)**	**Motor Temperature**	**Motor Voltage (V)**	**Electrical Connection**
TJHU= High temperature	2/4	315	0.8/0.2	300°C	230	Caja de Bornes=C
		355	1.1/0.25	400°C	460	Interruptor 300°C=1300
		400	2.2/0.5		380	Interruptor 400°C=1400

A+ Applus+ EN 12101-3 Fire Safety Certification

STANDARD TEMPERATURE

STANDARD TEMPERATURE				
Model	**Number of poles**	**Nominal Diameter**	**Motor Power (KW)**	**Motor Voltage (V)**
TJFU= Standard	2/4	315	0.8/0.2	230
		355	1.1/0.25	460
		400	2.2/0.5	380

TECHNICAL SPECIFICATIONS

TJHU

Model	Motor Power (KW)	Motor Temperature	Motor Voltage (V)	Electrical Connection	Speed (RPM)	Thrust (N)	Airflow Maximum Speed m³/h / CFM	Current (A)	*Sound Pressure Level dB(A)	Approx. Weight (Kg)
TJHU - 2/4 - 315	0.8/0.2	300°C	230	Terminal Box	3450/1715	23/6	4149 / 2442	3.06 / 1.08	65/47	56
			460	Terminal Box	3450/1715			1.53/0.54		
			380	Terminal Box	3450/1715			1.85/0.654		
			230	Isolation Switch 300°C	3450/1715			3.06 / 1.08		
			460	Isolation Switch 300°C	3450/1715			1.53/0.54		
			380	Terminal Box	3450/1715			1.85/0.654		
		400°C	230	Terminal Box	3414 / 1692			2.94 / 1.00		
			460	Terminal Box	3414 / 1692			1.46 / 0.502		
			380	Terminal Box	3414 /1692			1.77 / 0.608		
			230	Isolation Switch 400°C	3414 / 1692			2.94 / 1.00		
			460	Isolation Switch 400°C	3414 / 1692			1.46 / 0.502		
			380	Isolation Switch 400°C	3414 /1692			1.77 / 0.608		
TJHU - 2/4 - 355	1.1/0.25	300°C	230	Terminal Box	3465 / 1725	40/11	6191 / 3644	4.59/ 1.53	69/51	75
			460	Terminal Box	3465 / 1725			2.30/ 0.767		
			380	Terminal Box	3465/1725			2.78/0.928		
			230	Isolation Switch 300°C	3465 / 1725			4.59/ 1.53		
			460	Isolation Switch 300°C	3465 / 1725			2.30/ 0.767		
			380	Isolation Switch 300°C	3465/1725			2.78/0.928		
		400°C	230	Terminal Box	3465 / 1725			4.60 / 1.53		
			460	Terminal Box	3465/1725			2.30/ 0.767		
			380	Terminal Box	3465 / 1725			2.78 / 0.928		
			230	Isolation Switch 400°C	3465 / 1725			4.60 / 1.53		
			460	Isolation Switch 400°C	3465/1725			2.30/ 0.767		
			380	Isolation Switch 400°C	3465 / 1725			2.78 / 0.928		
TJHU - 2/4 - 400	2.2/0.5	300°C	230	Terminal Box	3485/1740	85/17	10031 / 5904	8.11/2.79	76/55	88
			460	Terminal Box	3485/1740			4.06 / 1.39		
			380	Terminal Box	3485/1740			4.91/1.69		
			230	Isolation Switch 300°C	3485/1740			8.11/2.79		
			460	Isolation Switch 300°C	3485/1740			4.06 / 1.39		
			380	Isolation Switch 300°C	3485/1740			4.91/1.69		
		400°C	230	Terminal Box	3505 / 1745			8.02/2.68		
			460	Terminal Box	3505/1745			4.01/1.34		
			380	Terminal Box	3505/1745			4.85/1.62		
			230	Isolation Switch 400°C	3505 / 1745			8.02/2.68		
			460	Isolation Switch 400°C	3505/1745			4.01/1.34		
			380	Isolation Switch 400°C	3505/1745			4.85/1.62		

*Thrust and airflow measured in accordance with ANSI/AMCA 250-22, Installation Figure 4C, at standard conditions.
*Sound pressure level at 3 meters, hemispherical free field..

TJFU

Model	Motor Power (KW)	Motor Temperature	Motor Voltage (V)	Electrical Connection	Speed (RPM)	Thrust (N)	Airflow Maximum Speed m³/h / CFM	Current (A)	*Sound Pressure Level dB(A)	Approx. Weight (Kg)
TJFU - 2/4 - 315	0.8/0.2	Standard	230	Standard Switch	3495 / 1745	22/6	4149 / 2442	3.43 / 1.18	65/47	56
			460		3495 / 1745			1.72 / 0.590		
			380		3495/1745			2.08/0.714		
TJFU - 2/4 - 355	1.1/0.25		230		3518 / 1756	40/11	6191 / 3644	5.06 / 1.71	69/51	75
			460		3485 / 1745			2.20/ 0.705		
			380		3485/1745			2.66/0.853		
TJFU - 2/4 - 400	2.2/0.5		230		3500 / 1745	85/17	10031 / 5904	8.63 / 2.89	76/55	88
			460		3500/1745			4.32/1.45		
			380		3500/1745			5.22/1.75		

*Thrust and airflow measured in accordance with ANSI/AMCA 250-22, Installation Figure 4C, at standard conditions.
*Sound pressure level at 3 meters, hemispherical free field..

amca WORLDWIDE CERTIFIED RATINGS
JET FAN THRUST AND SOUND
AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC.

Soler & Palau S.A. de C.V. certifies that the TJHU / TJFU series shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program..

ACOUSTIC CHARACTERISTICS

TJHU / TJFU (2 Poles)

Size	63	125	250	500	1000	2000	4000	8000	LwA
315	62	61.9	70.5	81.1	74.5	71.8	73.5	66.3	83
355	57.6	64.3	74.2	84.2	79.1	77.6	79.1	72.4	87
400	63.7	73.2	84	87.3	88	86.3	85.6	80.1	94

Total Sound Figure 1 Installation A Non-ducted inlet and discharge.

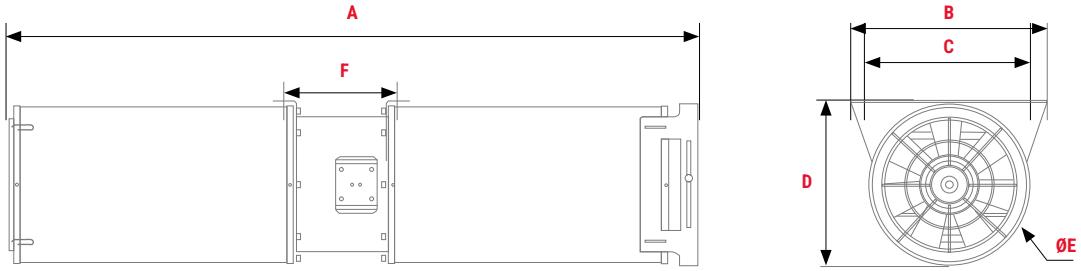
TJHU / TJFU (4 Poles)

Size	63	125	250	500	1000	2000	4000	8000	LwA
315	40	56	54	58	56	50	45	38	63
355	44	59	58	60	61	54	49	42	66
400	46	63	62	69	62	60	55	46	72

Total Sound Figure 1 Installation A Non-ducted inlet and discharge.

DIMMENSIONS

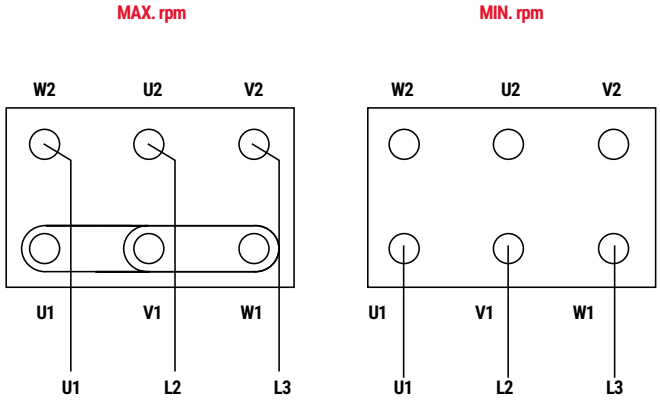
TJHU /TJFU



Model	A	B	C	D	E	F	Ø
315	1845	485	405	404	385	309	19
355	1845	525	445	436	425	309	19
400	1845	586	506	498	485	309	19

Dimmensions in mm.

ELECTRICAL CONNECTION

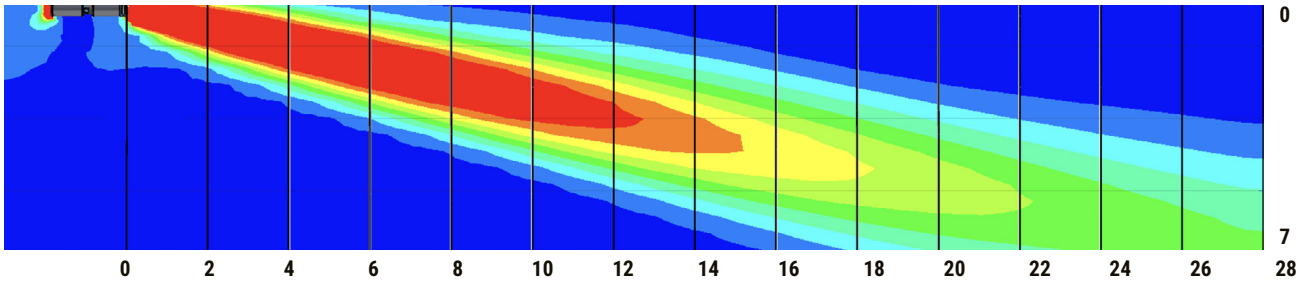


THROW CURVES

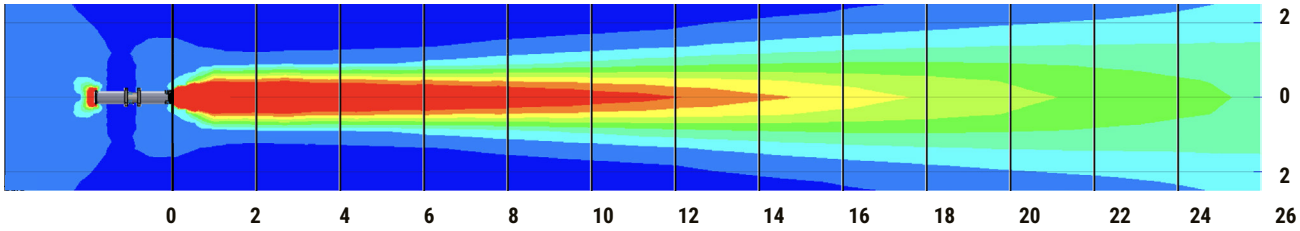
TJFU /TJHU 315 2 POLES

DISTANCE	m	0	2	4	6	8	10	12	14	16	18	20	22	24	26
SPEED	m/s	11.212	4.008	3.555	3.220	2.568	2.622	2.386	2.113	1.920	1.700	1.559	1.433	1.291	1.201

SIDE VIEW



TOP VIEW



Note: The throw curves shown are based on ideal models;

therefore, variations may occur depending on the specific construction of the enclosure.

Maximum thrust calculated in accordance with ASHRAE Standard 70.

Data obtained at standard conditions at maximum operating speed.

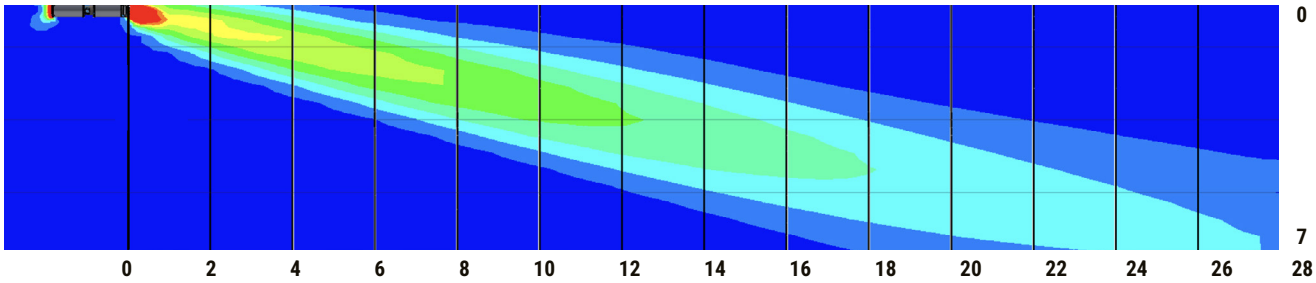
Speed: m/s **Distance: m**

THROW CURVES

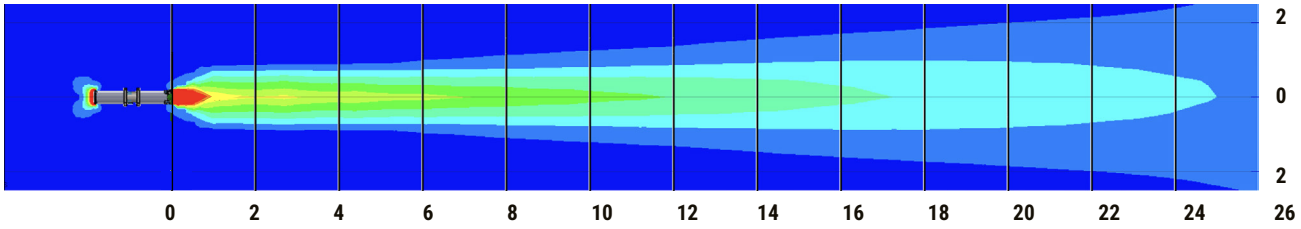
TJFU /TJHU 315 4 POLES

DISTANCE	m	0	2	4	6	8	10	12	14	16	18	20	22	24	26
SPEED	m/s	5.555	1.976	1.741	1.588	1.424	1.301	1.186	1.052	0.958	0.848	0.777	0.713	0.641	0.595

SIDE VIEW



TOP VIEW



The throw curves shown are based on ideal models.

therefore, variations may occur depending on the specific construction and layout of the enclosure.

Maximum calculated thrust according to ASHRAE Standard 70.

ata obtained under standard conditions at maximum operating speed.

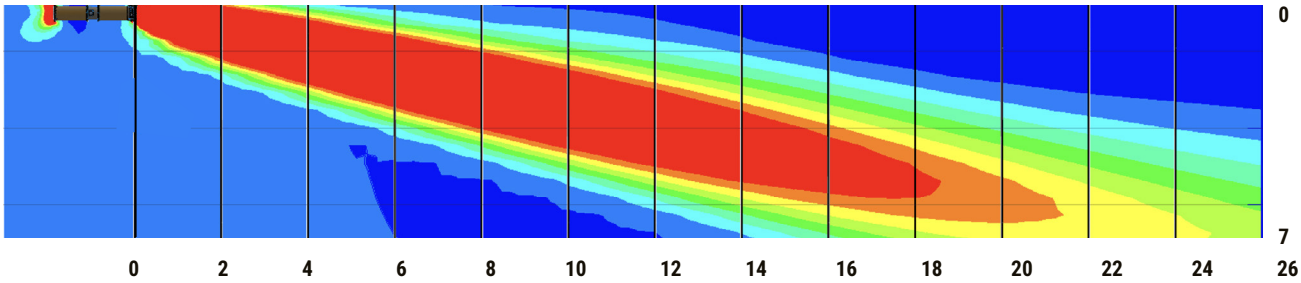
Speed: m/s **Distance: m**

THROW CURVES

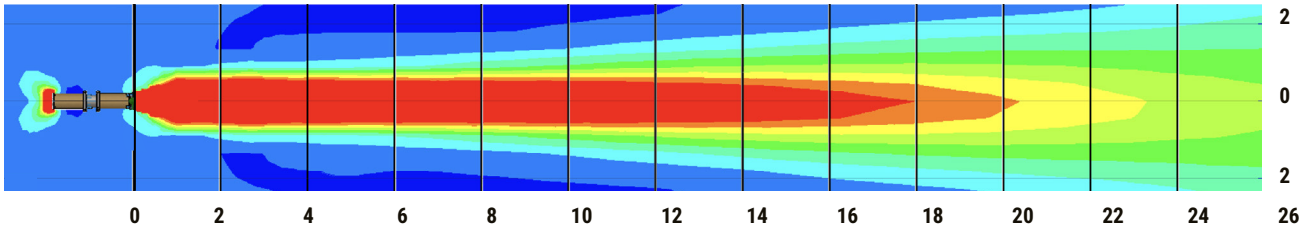
TJFU /TJHU 355 2 POLES

DISTANCE	m	0	2	4	6	8	10	12	14	16	18	20	22	24	26
SPEED	m/s	13.235	5.391	4.742	4.379	3.939	3.601	3.289	2.915	2.646	2.337	2.127	1.951	1.749	1.629

SIDE VIEW



TOP VIEW



The throw curves shown are based on ideal models;

therefore, variations may occur depending on the specific construction and layout of the enclosure.

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Maximum calculated thrust according to ASHRAE Standard 70.

Data obtained under standard conditions at maximum operating speed.

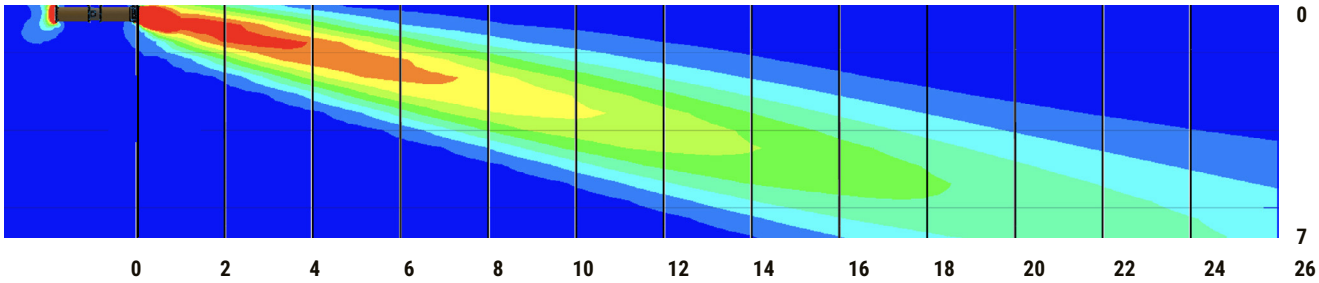
Speed: m/s **Distance: m**

THROW CURVES

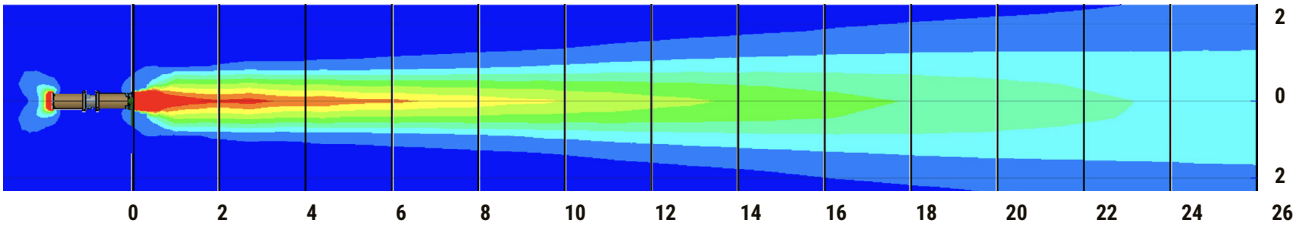
TJFU /TJHU 355 4 POLES

DISTANCE	m	0	2	4	6	8	10	12	14	16	18	20	22	24	26
SPEED	m/s	6.589	2.691	2.366	2.168	1.955	1.796	1.644	1.459	1.324	1.168	1.066	0.977	0.877	0.814

SIDE VIEW



TOP VIEW



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Maximum calculated thrust according to ASHRAE Standard 70.

ata obtained under standard conditions at maximum operating speed.

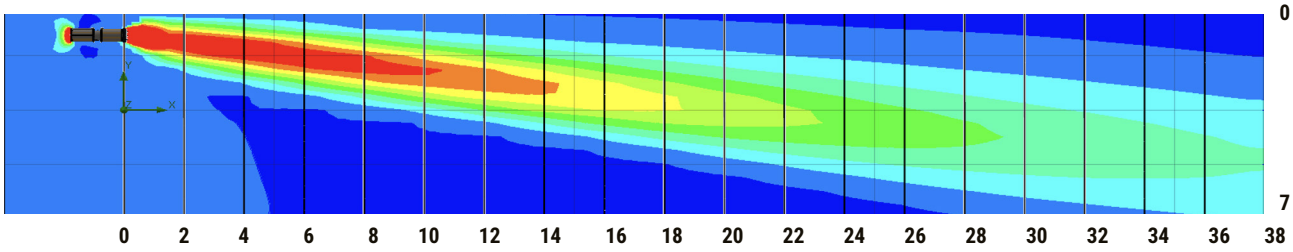
Speed: m/s **Distance: m**

THROW CURVES

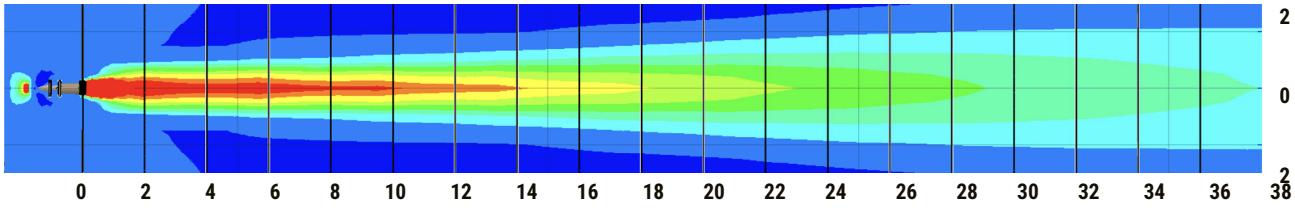
TJFU/TJHU 400 (2 POLES)

DISTANCE	m	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
SPEED	m/s	14.32	6.052	5.788	5.167	5.045	4.643	4.406	4.08	3.782	3.558	3.29	3.09	2.783	2.549	2.378	2.189	2.058	1.921	1.803

SIDE VIEW



TOP VIEW



The throw curves shown are based on ideal models;

therefore, variations may occur depending on the specific construction and layout of the enclosure.

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Maximum calculated thrust according to ASHRAE Standard 70.

Data obtained under standard conditions at maximum operating speed.

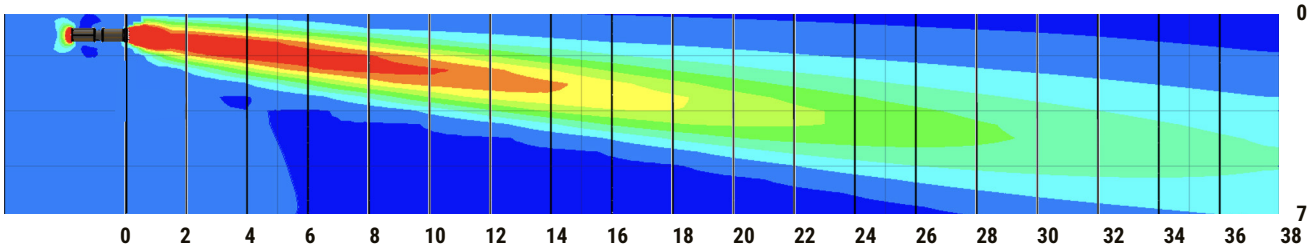
Speed: m/s **Distance: m**

THROW CURVES

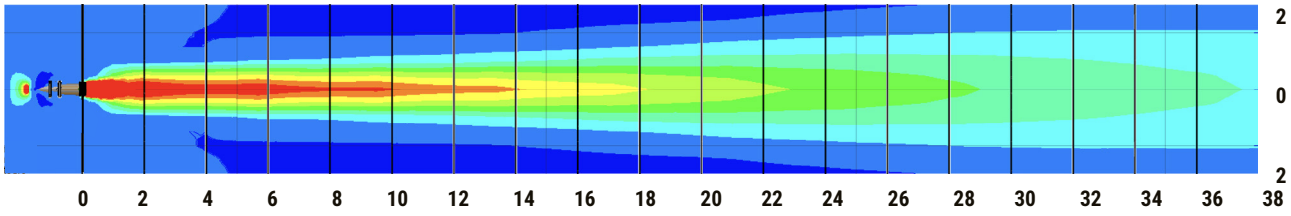
TJFU/TJHU 400 (4 POLES)

DISTANCE	m	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
SPEED	m/s	7.087	3.032	2.885	2.574	2.509	2.307	2.197	2.027	1.892	1.765	1.643	1.494	1.391	1.268	1.187	1.101	1.027	0.964	0.899

SIDE VIEW



TOP VIEW



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therefore, variations may occur depending on the specific construction and layout of the enclosure.

Maximum calculated thrust according to ASHRAE Standard 70.

ata obtained under standard conditions at maximum operating speed.

Speed: m/s **Distance: m**

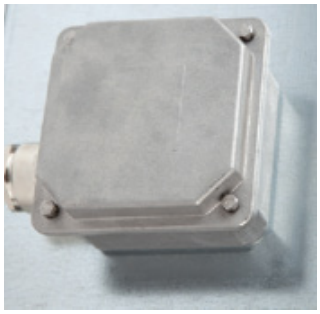
WIRING CONNECTIONS

TJHU

High temperature switch

IP-65 On-Off Safety Switch, F400 or F300.

TJHU



Terminal box

IP-65 external terminal box for easy installation

TJFU

Switch

IP-65 rigid polycarbonate enclosure switch.

Soler&Palau Ventilation Group

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