Tempest

Tacit
Hush Projector Enclosures 5-50K

Tacit
Hush Projector Enclosures

Tempest is the world's leading manufacturer of large format indoor projector enclosures for noise attenuation in presentation suites, digital cinema, live theatre and concert venues – any noise-sensitive indoor space. Larger Tacit models are projector-specific for projectors above 20K lumens, and have been tested and approved for each of the projectors covered, up to 50,000 ANSI lumens.

New:

All Tacit enclosures come with AR-coated optical grade port glass with >98% visible light transmission.

And:

All Tacit Landscape enclosures come with DCI-compliant angled port glass.

Tacit 56.310 Landscape with a Christie Crimson projector

Tip: You can specify most Tacit models to slide left or right

Tacit uses a thermostatically controlled remote fan located in an adjacent space or insulated ceiling void to assure best-in-class noise attenuation. Tacit has a lightweight but extremely strong aluminum frame, with threaded holes top and bottom for easy installation.

Tacit offers excellent projector access, with full-length lockable side access doors, and a projector slide that may be ordered for right or left access on all landscape and portrait models.

Standard colors: White (RAL 9003 semi-gloss) or black. Other colors to order.

Tacit is equipped with Tempest's patented DEC4 Control, featuring a comprehensive display and remote monitoring options.

Portrait and Ultra-Short-Throw versions are available to special order.

Why so Quiet?

There are several parts to the puzzle:

· First, Tacit enclosures are air-tight boxes with excellent seals, which do much of the work.

· Second, we line Tacit enclosures with two layers of high performance melamine sound insulation foam — rated incidentally to the highest fire safety standards.

· Third, we put the exhaust fan someplace else. As a rule of thumb, you need to blow through an enclosure about double the amount of air being handled by the projector itself.

That means forced cooling, and that means noise. The Tacit exhaust fan is located at the end of a duct (by others), which may be in an insulated ceiling space, an adjoining room or an outside wall.

The exhaust fan may also feed into the building air return, though we don't recommend feeding air to the enclosure inlets from the building air supply. It should be brought in at moderate temperature from a room or ceiling void.

This combination achieves excellent attenuation in the audience space, which is our sole aim.
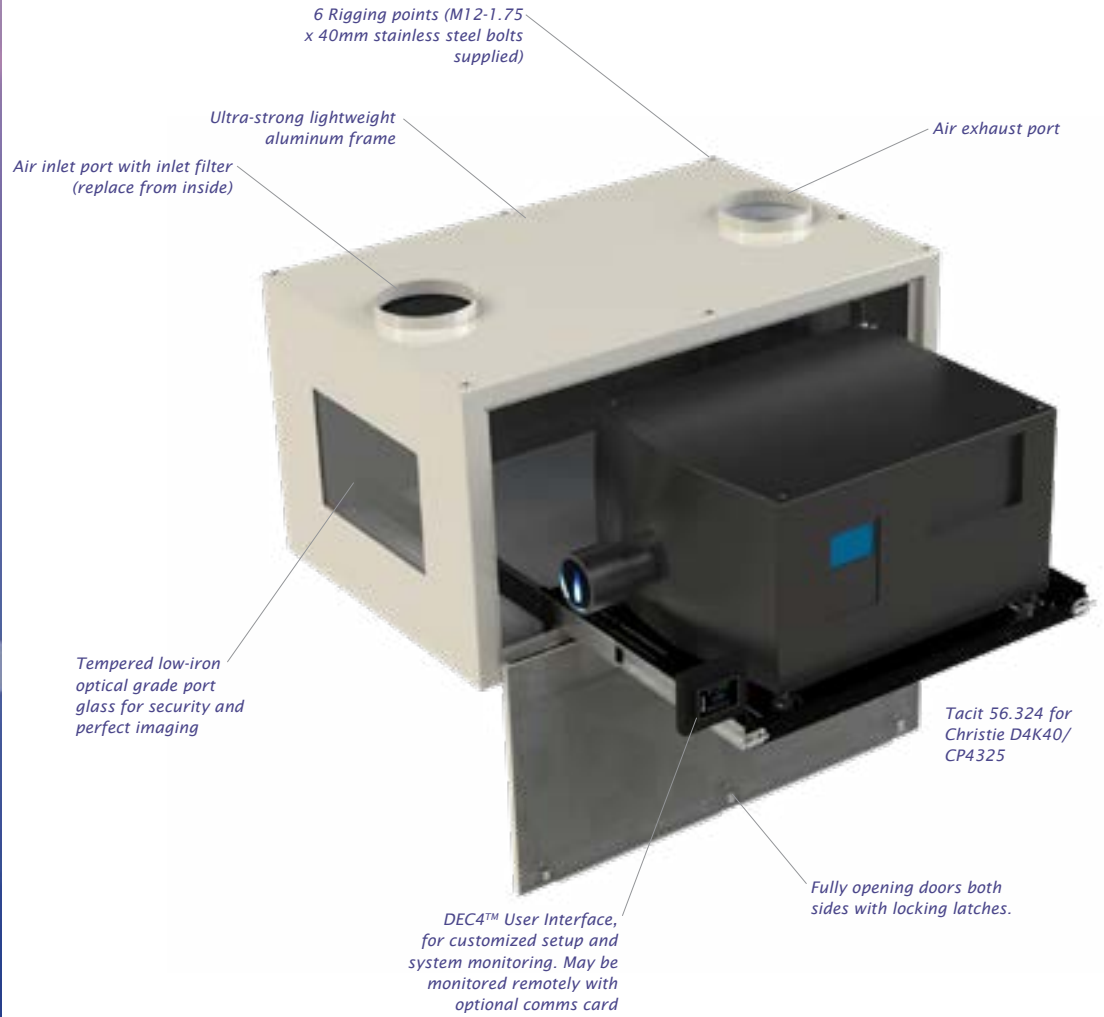
Now Tempest Tacit enclosures monitor air temperature where it matters — right next to the projector air inlet. You can set a target air inlet temperature limit, and Tacit's variable speed remote fan will blow just hard enough to keep it there.

You told us that our user interface was great, but that it could be distracting or hard to reach on the outside. So now it's right where you need it, next to the projector.
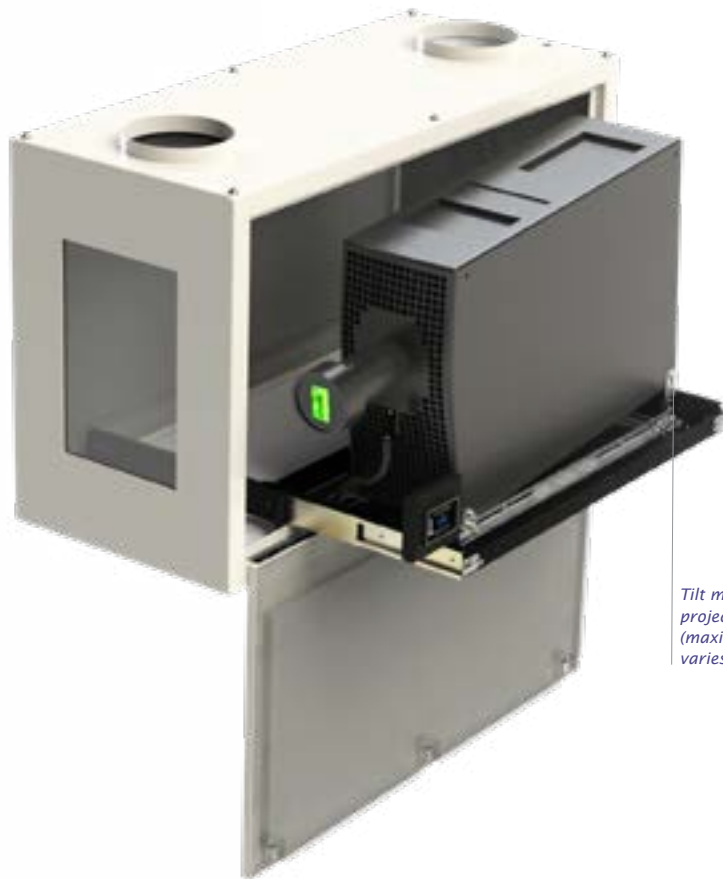

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Landscape

6 Rigging points (M12-1.75
x 40mm stainless steel bolts
supplied)

Ultra-strong lightweight
aluminum frame

Air exhaust port

Air inlet port with inlet filter
(replace from inside)

Tempered low-iron
optical grade port
glass for security and
perfect imaging

Tacit 56.324 for
Christie D4K40/
CP4325

Fully opening doors both
sides with locking latches.

DEC4™ User Interface,
for customized setup and
system monitoring. May be
monitored remotely with
optional comms card

Tacit 56.320 for
Panasonic PT-RZ31K,
Shown here in Black

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Portrait

Like all Tacit models, each Tacit portrait enclosure is customized for the intended projector, so we need to know the projector you're using when you order.

Not all projectors may be used in portrait mode — check with your projector manufacturer before ordering.

Some projectors may be used in portrait mode but only in one orientation — either base left or base right (picture here shows a Christie Crimson installed base left.

Tilt mechanism allows projector tilt adjustment (maximum tilt angle varies by projector).

Ultra Short Throw
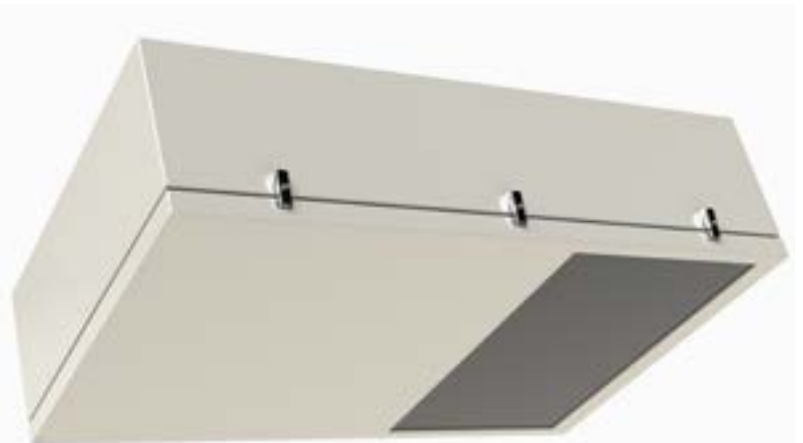
Tacit UST enclosures allow you to paint the whole wall from just above or below. UST enclosures are wider than standard landscape enclosures, to allow for the extreme width of the projection beam without clipping.

Tacit UST enclosures may be configured to mount above the image (projecting down) or below it (projecting up). Due to the wide variety of UST lens solutions on the market, Tacit UST enclosures are specially

built for your project: Contact Tempest and talk to us about your next UST adventure!

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Tacit Remote Blower Kit

51.RFA.220 (Tacit 050-150)

51.RFA.270 (Tacit 210 and up)

Tacit's powerful remote blower must be located in an adjoining space to the Tacit enclosure, out of audience earshot. Connection to the the enclosure is via one 2-conductor power cable (48Vdc, 120W), and one twisted pair for speed control and status feedback — a CAT5 cable is fine. The cable may be pulled back to the enclosure through the exhaust duct if desired.

Mount the blower kit either in a convenient space in free air, or in the side of a building return HVAC duct.

Fan Speed Control

Tacit uses a powerful variable-speed blower in a remote location to keep the projector at optimum operating temperature.

The remote blower will run at the minimum speed required to maintain the target projector inlet temperature, keeping fan noise to a minimum and enabling virtually infinite fan life.

Tacit's temperature sensor is now located exactly where you need it — right by the projector's inlet vent, and user settings allow you to set a target inlet temperature to suit the needs of your projector.

Ductwork (by others)

For best results, install 250mm (10") air ducts for air inlet and exhaust (200mm/8in for Tacit 050-150).

The exhaust duct should be as short as possible (maximum 10m/30ft), and with a minimum of sharp bends, to optimize airflow.

The inlet duct should ideally connect to an adjoining air-conditioned space, for best cooling and acoustic performance. DO NOT pull air from the building HVAC supply if it may be used for heating as well as air conditioning.

Inlet duct

Exhaust duct, shown with remote blower kit installed in building return air duct
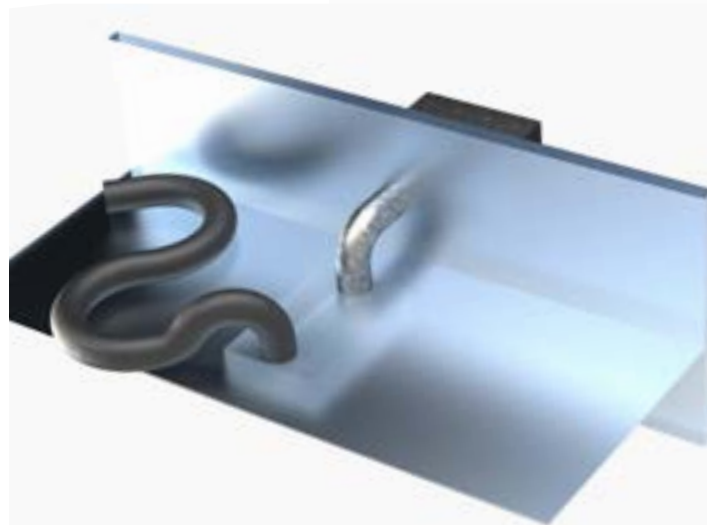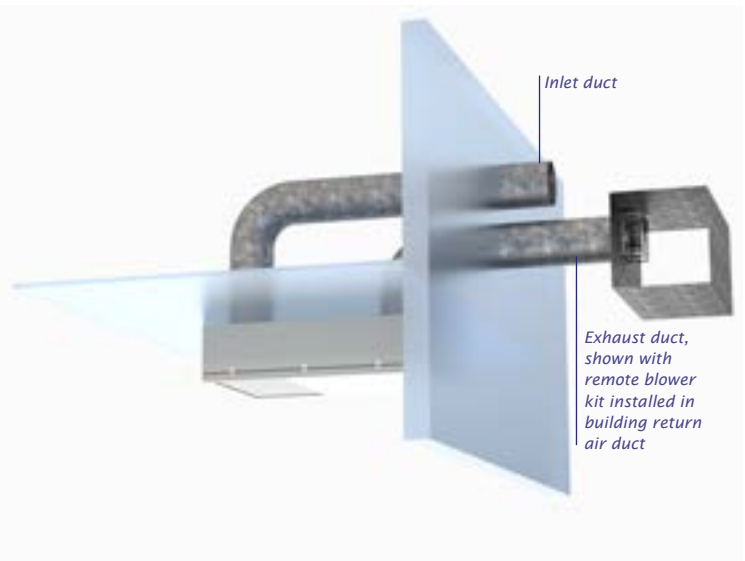
If it is impractical to bring inlet air from a remote location, use a length of padded flexible hose (250mm/10in ID) in an 'S' configuration to draw in air and muffle any noise escaping through the air inlet path.

In cases where additional ductwork is not feasible such as in historic buildings, consider Tempest's *Zen* standalone enclosures.

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Acoustic Performance Data

The data shown were generated in an anechoic chamber, using a Panasonic PT-RZ21K projector and a Tacit 56.210.L enclosure. Three tests were performed:

1. Ambient chamber sound pressure level

2. Projector, 100% ight out-put, on isolated mount

3. Projector, running in Zen enclosure, on isolated mount.

Detailed acoustic test data, from anechoic and reverberant chambers, are available for download here.

Frequency (Hz)	Ambient dB	Projector (Panasonic PT-RZ21K) dB	Projector in Tacit 210.L Enclosure dB
20	19.4	28.2	21.9
25	17.8	29.9	21.7
32	13.6	24.7	18.5
40	17.3	24.0	26.7
50	12.2	23.2	25.8
63	16.3	26.6	25.9
80	15.0	25.1	23.9
100	7.3	28.3	24.5
125	8.0	31.6	27.1
160	1.6	34.0	25.8
200	-1.5	37.7	26.2
250	-1.2	39.0	27.6
315	-1.7	36.3	22.4
400	-1.1	35.7	20.4
500	-0.4	37.0	16.7
630	-0.1	36.2	13.7
800	0.6	35.4	13.5
1,000	1.3	35.5	11.4
1,250	1.9	34.2	8.6
1,600	3.9	31.9	6.0
2,000	3.4	29.6	5.2
2,500	4.3	31.8	5.2
3,150	5.2	29.1	5.8
4,000	6.2	23.0	6.4
5,000	7.0	19.9	7.1
6,300	7.6	17.6	7.6
8,000	7.9	14.8	7.9
10,000	8.0	13.9	8.0
12,500	8.0	12.2	8.0
16,000	8.1	13.3	8.1
20,000	8.7	21.0	8.3
dBA	**17.0**	**44.0**	**25.5**

Tacit — or Zen?

Tempest also offers Zen standalone (ductless) indoor projector enclosures.

There is not much difference in noise attenuation between Tacit and Zen enclosures, but they both offer advan-tages for different types of application:

Use Tacit:

- *Slightly better acoustic performance*

- *Portrait, UST versions*

- *Custom applications*

- *Hostile environments (eg: pool areas, theme park rides)*

- *if heat load in the space is an issue*

Use Zen:

- *Simple installation*

- *No air ducts*

- *Landscape format*

Zen Info

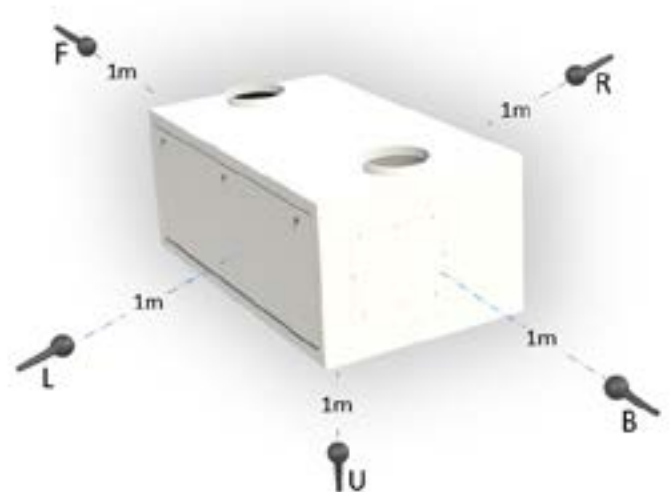## Acoustic Test Setup (Anechoic Chamber)

Test Lab:

Western Electro-Acoustic Laboratory, Santa Clarita, California

Date: April 9th, 2021

Microphones:

1. 1m in front of test unit

2. 1m right of test unit

3. 1m left of test unit

4. 1m behind test unit

5. 1m below test unit

Mic values were integrated to arrive at the above values.

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Tempest System Manager

Tempest System Manager is a Windows app running on a local PC connected to your enclosures over a local area network.
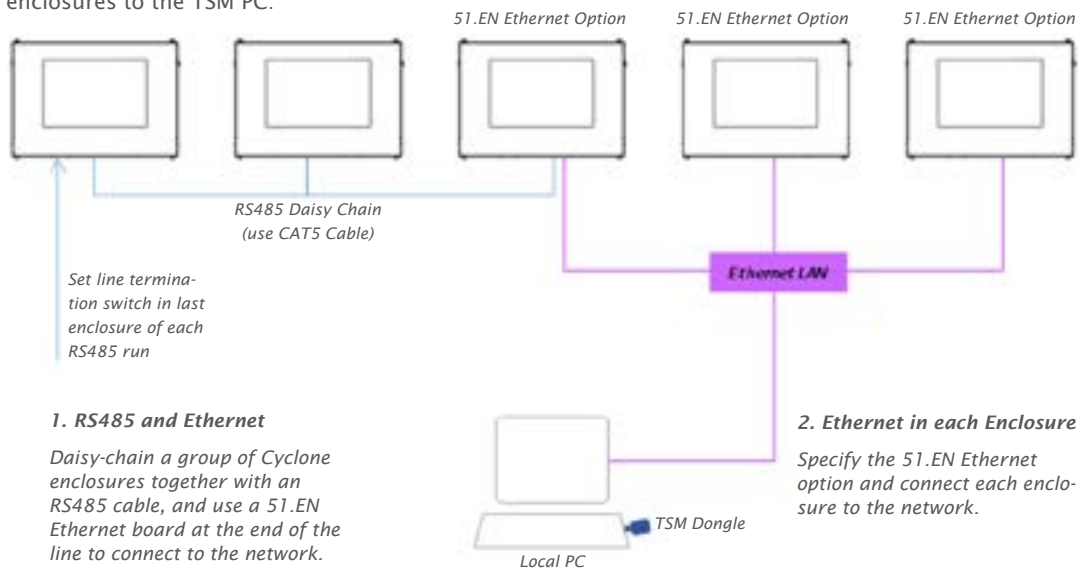
TSM discovers any Tempest enclosures present on the network at initialization, and monitors system attributes in real time, including lamp, fan and heater status, temperature, relative humidity and more.

TSM may also be used to upload firmware updates to enclosure controllers over the network, without having to visit each enclosure.

The TSM license includes 12 months unlimited user support from Tempest electronics partner JESE, and continuing support is available for a modest annual fee.

TSM Model Numbers

51.TSM.10	Up to 10 enclosures
51.TSM.25	Up to 25 enclosures
51.TSM.50	Over 25 enclosures

Monitoring Connections

There are two ways to connect enclosures to the TSM PC:

51.EN Ethernet Option   *51.EN Ethernet Option*   *51.EN Ethernet Option*

*RS485 Daisy Chain
(use CAT5 Cable)*

Set line termination switch in last enclosure of each RS485 run

Ethernet LAN

1. RS485 and Ethernet

Daisy-chain a group of Cyclone enclosures together with an RS485 cable, and use a 51.EN Ethernet board at the end of the line to connect to the network.

TSM Dongle

Local PC

2. Ethernet in each Enclosure

Specify the 51.EN Ethernet option and connect each enclosure to the network.

TEMP Protocol

Tempest also publishes a simple protocol for use by integrators wishing to monitor enclosures over an existing control network.

Connection options are the same as for System Manager.

Download the TEMP Developer Guide here:

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Tacit Projector Enclosure Dimensions[1]			Enclosure								Shipping							
Model	Orientation[2]	Typical Projectors[3]	L (cm)	W (cm)	H (cm)	Kg	L (in)	W (in)	H (in)	Lb	L (cm)	W (cm)	H (cm)	Kg	L (in)	W (in)	H (in)	Lb
56.050.L	Landscape	Most, 5-7,000 Lumens	74	76	37	27	29	30	15	59	91	91	61	43	36	36	24	94
56.050.P	Portrait		74	43	71	29	29	17	28	64	91	91	61	45	36	36	24	99
56.100.L	Landscape	Most, 7-10,000 Lumens	86	81	39	39	34	32	16	85	91	91	61	55	36	36	24	120
56.100.P	Portrait		86	43	76	43	34	17	30	95	91	91	61	59	36	36	24	130
56.125.L	Landscape	Panasonic PT-MZ Series	86	91	39	43	34	36	16	94	91	107	61	59	36	42	24	129
56.125.P	Portrait		86	43	86	47	34	17	34	104	91	107	61	63	36	42	24	139
56.150.L	Landscape	Most 12-15,000 Lumens	107	81	44	48	42	32	18	106	132	86	51	69	52	34	20	151
56.150.P	Portrait		107	48	81	54	42	19	32	118	132	86	51	74	52	34	20	163
56.200.L	Landscape	Epson EB-PU 22xx	86	91	46	48	34	36	18	106	107	112	71	85	42	44	28	186
56.200.P	Portrait		86	51	91	51	34	20	36	113	107	71	117	88	42	28	46	193
56.202.L	Landscape	Panasonic PT-RQ25K, DPI M-Vision 23K	112	81	46	59	44	32	18	130	132	102	71	95	52	40	28	210
56.202.P	Portrait		112	51	76	62	44	20	30	135	132	71	102	98	52	28	40	215
56.204.L	Landscape	Christie M4K-25	117	81	51	62	46	32	20	136	137	102	76	98	54	40	30	216
56.204.P	Portrait		117	56	76	64	46	22	30	141	137	76	102	100	54	30	40	221
56.210.L	Landscape	Panasonic PT-RZ21K, Barco G100	127	91	51	82	50	36	20	181	147	112	76	119	58	44	30	261
56.210.P	Portrait		127	56	86	85	50	22	34	188	147	76	112	122	58	30	44	268
56.212.L	Landscape	Barco UDM/Njord	122	86	56	81	48	34	22	179	142	107	81	118	56	42	32	259
56.212.P	Portrait		122	61	81	83	48	24	32	183	142	81	107	120	56	32	42	263
56.250.L	Landscape	Epson L-30000	127	94	51	94	50	37	20	206	147	114	76	130	58	45	30	286
56.250.P	Portrait		127	56	102	98	50	22	40	216	147	76	127	134	58	30	50	296
56.305.L	Landscape	Panasonic PT-RQ35K, RZ34K, Barco UDM	132	86	61	93	52	34	24	205	152	107	86	141	60	42	34	310
56.305.P	Portrait		132	66	81	95	52	26	32	209	152	86	107	143	60	34	42	314
56.310.L	Landscape	Barco UDX 40K	137	91	61	104	54	36	24	229	157	112	86	152	62	44	34	334
56.310.P	Portrait		137	66	86	107	54	26	34	235	157	86	112	155	62	34	44	340
56.314.L	Landscape	Christie Griffyn 32K	147	91	61	109	58	36	24	239	168	112	86	157	66	44	34	344
56.314.P	Portrait		147	66	86	112	58	26	34	245	168	86	112	159	66	34	44	350
56.322.L	Landscape	DPI Titan Laser 37K	142	94	61	128	56	37	24	283	163	114	86	176	64	45	34	388
56.322.P	Portrait		142	66	102	132	56	26	40	291	163	86	127	180	64	34	50	396
56.514.L	Landscape	Christie Griffyn 50K	147	94	61	124	58	37	24	274	168	114	86	172	66	45	34	379
56.514.P	Portrait		147	66	97	128	58	26	38	283	168	86	122	176	66	34	48	388
56.522.L	Landscape	DPI Insight 8K 37K	163	94	71	181	64	37	28	399	183	114	97	238	72	45	38	524
56.522.P	Portrait		163	76	112	186	64	30	44	409	183	97	137	243	72	38	54	534
56.525.L	Landscape	Panasonic PT-RQ50K	163	94	66	145	64	37	26	319	183	114	91	202	72	45	36	444
56.525.P	Portrait		163	71	91	148	64	28	36	326	183	91	117	205	72	36	46	451

[1] Due to continuous product development, weights and dimensions are subject to change. Check with Tempest before construction work.

[2] Landscape and Portrait versions shown here. UST versions are custom or semi-custom. Please consult Tempest for details

[3] For projectors not shown here, please contact Tempest — we will be happy to accomodate any projector type

All Tacit products are built to order. Please contact Tempest for lead times.

All sales are subject to Tempest Lighting, Inc. Standard Terms and Conditions of Sale,
available for download at www.tempest.biz.

All Schedule B Export Code: 9405.99.0000

Custom Colors

The enclosures in this brochure are shown in our standard warm white semi-gloss or black. Any RAL color available to special order.

Options

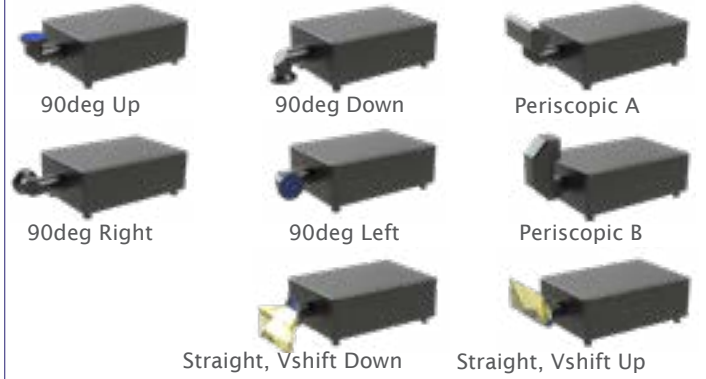|	
56.UR.xxx	Unistrut Rail Kit *(Use the 3-digit enclosure model #, eg 56.UR.200 for Tacit 56.200)*
51.IFL.11	Replacement Inlet Filter Tacit 56.1xx-3xx Models
51.IFL.13	Replacement Inlet Filter Tacit 56.400 and up
51.EN	Ethernet Board, for Tempest TEMP monitoring
51.TSM.xx	Tempest System Manager
0000.CL	Custom Color — specify any RAL #, plus % gloss desired

CAD drawings and user manuals at www.tempest.biz

Please complete this form and email to us at info@tempest.biz

Name *	
Company *	
Email *	
Phone	

Project Name & Location *		
Projector & Lens Make/Model #	Projector: *	Lens: *
Tacit Model *	56.	Quantity
Destination Country *		
Expected Install Date *		
Enclosure Type *	Landscape Portrait UST	
Projector Slide *		
Projector Mount *	Landscape/UST: Feet Down Feet Up Portrait: Feet Left Feet Right	
Supply Voltage *		

Options

Cyclovator	Qty	No	
Angle Mount Kit	Qty	No	
Unistrut Kit	Qty	Mounting	No
Ethernet Comms	Qty	Type	No
Windshield Wiper	Qty	No	
Spare Inlet Filter	Qty	No	

Projector Power Outlet *(all types include IEC 60320 C13 Aux Power)*:

Select Type:

Custom:

Color, standard	Black White
Color, custom *Gloss levels higher than 30% may show up weld marks. Tempest accepts no responsibility in this event.*	Custom, RAL # Gloss Level % Salt Fog Primer: Yes No

UST Lens Configuration:

90deg Up   90deg Down   Periscopic A

90deg Right   90deg Left   Periscopic B

Straight, Vshift Down   Straight, Vshift Up

Custom Requests:

User manuals, 2D and 3D CAD drawings at www.tempest.biz

* Left slide shown here