

Grilles/Registers/Diffusers Submittals

Date Printed: 5/8/2025 **Spec Section:** 15 - HVAC

Contact: 571 Chrislea Rd., Unit 3

Woodbridge, ON L4L 8A2



All-In-One Detailed Submittal Schedule Grilles/Registers/Diffusers

#	Qty	Model	Tag	Unit Size	Inlet Size	Border	Face Size	Accessories	
3	7	SPD	S-1	12	12	31	24, 24		
31 - 15/16" T-Bar Lay-In or Surface Mount Application									
4	3	80	R-1	24.000, 12.000		CORE		LI	
CORE -	Core Onl	y LI - T-Bar l	Lay-In		•	-			
5	2	80	E-1	24.000, 12.000		F		SW	
F - 1 1/	4" (32) Fl	at Frame SV	V - Sidew	all Application	•	-			
6	2	80	E-2	24.000, 24.000		F		SW	
F - 1 1/	F - 1 1/4" (32) Flat Frame SW - Sidewall Application								

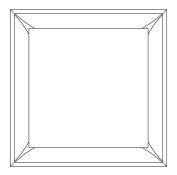


Performance Notes

- Date Printed: 5/8/2025
- 1. Tested in accordance with ASHRAE Standard 70-2006 "Method of Testing for Rating the Performance of Air Outlets and Inlets".
- 2. Throw data is based on the temperature differential (Dt), in degrees Fahrenheit (°F), between supply air temperature and room temperature.
- 3. Throw values, in feet (ft), are provided at terminal air velocities of 150 fpm, 100 fpm, and 50 fpm for supply applications.
- 4. The NC, sound pressure level, is based on a room absorption of 10dB re 10⁻¹² Watts in each octave band.
- 5. Blanks (--) indicate an NC level below 15.
- 6. Air flow is in cubic feet per minute (cfm).
- 7. Static pressure (Ps), velocity pressure (Pv), and total pressure (Pt) are in inches of water (in. w.g.).



Square Plaque Diffuser SPD



Duct Diameter: 12"

Backpan Height (B): 2 1/2"

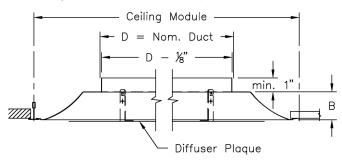
> **Ceiling Module:** 24" x24"

Ceiling Opening: 22" x 22"

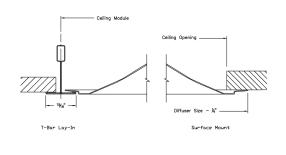
(Surface Mount App)

Border:

15/16" T-Bar Lay-In or Surface Mount Application



Frame Detail:



Notes:

- 360° radial horizontal air pattern
- Removable face panel
- For 9/16" flat tee installation with style 31 frame, cross-tees must be firmly secured. Locking any unopposed cross tees to the main beam with clips such as Armstrong STAC is recommended. Corner clips from ceiling suppliers may also be used, or order 916 clip in GRD-PARTS (confirming fit with ceiling on site is recommended).
- Integral hanger loops
- Factory tolerance +/- 1/32"



Scan for link to additional product information

Material:

· Diffuser: Steel

Finish:

• B12 - Standard White

PROJECT: **ENGINEER:**

DESCRIPTION: Square Plaque Diffuser SPD-1-2//I/12//24/24/31/////B12

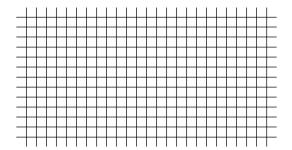
SUBMITTAL NO: 258503-F

CUSTOMER:

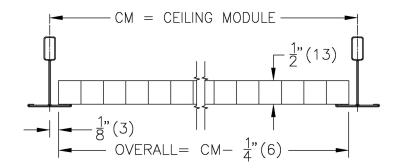
SUBMITTAL DATE: 5/8/2025



Egg Crate Grid Core Only - 1/2" x 1/2" x 1/2" 80



Border: CORE Core only



Material:

• Grille - Aluminum construction

Finish:

• B12 - Standard White

Notes:

- 1/2" x 1/2" x 1/2" aluminum grid core
- Minimum duct size = 6" x 4" (152mm x 102mm)
- CORE units maximum duct size = 48" x 24" (1219mm x 610mm)
- Factory tolerance ±1/32" (1mm)

PROJECT: **ENGINEER:**

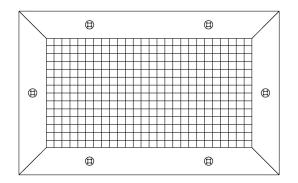
DESCRIPTION: Egg Crate Grille, 1/2" X 1/2" X 1/2" 80//I/24.000/12.000//LI/CORE/////24/12///0//////B12

SUBMITTAL NO: 259683-E **CUSTOMER:**

SUBMITTAL DATE: 5/8/2025

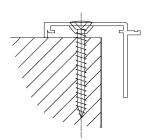


80 Egg Crate Grille – 1/2" x 1/2" x 1/2" Core



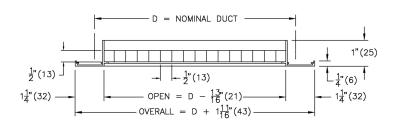
Fastening: A

Countersunk Screw Holes



Border: F

1 1/4" (32) Flat Frame



Material:

Grille - Aluminum construction

Finish:

• B12 - Standard White

Notes:

- 1/2" x 1/2" x 1/2" aluminum grid core
- Minimum duct size = 6" x 4" (152mm x 102mm)
- Maximum duct size without mullion = 48" x 24" (1219mm x 610mm)
- Maximum duct size with mullion = 96" x 48" (2438mm x 1219mm)
- Units with mullion supplied in one-piece frame construction
- Units over 96" x 48" (2438mm x 1219mm) supplied in sections c/w Duct Mounting Channel
- Factory tolerance ±1/32" (1mm)

PROJECT: ENGINEER:

SUBMITTAL NO: 259683-E CUSTOMER:

SUBMITTAL DATE: 5/8/2025

SUBMITTAL

Job Name: SHOPPERS DRUG MART #830

Elevation: (ft) 568

Date: 5/08/2025

Submitted By: Amanda Stennett

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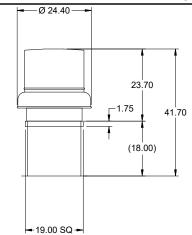
Printed Date: 05/08/2025 **Job:** SHOPPERS DRUG MART #830

Mark: EF-1,2 Model: GB-098-6

Model: GB-098-6

Belt Drive Centrifugal Roof Exhaust Fan

Dimensional						
Quantity	2					
Weight w/o Acc's (lb)	52					
Weight w/ Acc's (lb)	57					
Weight w/ Acc's and Curb (lb)	85					
Max T Motor Frame Size	56					
Standard Curb Cap Size (in.)	19 x 19					
Roof Opening (in.)	15.5 x 15.5					



OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.

Performance	ce					
Requested Volume (CFM)	600					
Actual Volume (CFM)	600					
Total External SP (in. wg)	0.375					
Fan RPM	1461					
Operating Power (hp)	0.14					
Elevation (ft)	568					
Airstream Temp.(F)	70					
Air Density (lb/ft3)	0.073					
Drive Loss (%)	18.4					
Tip Speed (ft/min)	4,280					
Static Eff. (%)	31					
Misc Fan Data						
Fan Energy Index (FEI)	-					
Outlet Velocity (ft/min)	625					

Motor	
Motor Included	Yes
Size (hp)	1/6
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1725
Efficiency Rating	Standard
Windings	1
NEC FLA* (Amps)	4.4
Min. Circuit Ampacity (MCA)	5.5
Max. Overcurrent Protection (MOP)	15
Short Circuit Current Rtg (SCCR)	5 kA

	Till TOE BY TOE.	
1.2		0.4
0.9	1461 FRPM	0.3
iic Pressu	System System	3rake Pow
	90 mg System	0.1
0.0	0 1 2 3 4 5 6 7 8	0.0 3
	Volume (CFM) x 100	

 \triangle Operating Bhp point

Operating point at Total External SP

— Fan curve

----- System curve

----- Brake horsepower curve

Notes:

All dimensions shown are in units of in.

*NEC FLA, MCA and MOP are for reference only – based on tables 430.248 or 430.25 of National Electric Code 2020. Actual motor FLA may vary, for sizing thermal overload, consult factory. MCA and MOP values shown only account for the motor, not accessories (damper actuator, field supplied VFD, etc).

LwA - A weighted sound power level, based on ANSI S1.4 dBA - A weighted sound pressure level, based on 11.5 dB attenuation per Octave band at 5 ft - dBA levels are not licensed by AMCA International

Sones - calculated using ANSI/AMCA 301 at 5 ft



Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	77	75	73	65	61	57	51	46	69	57	8.9



Printed Date: 05/08/2025 Job: SHOPPERS DRUG MART #830

> Mark: EF-1,2 Model: GB-098-6

Model: GB-098-6

Belt Drive Centrifugal Roof Exhaust Fan

Standard Construction Features:

- Aluminum housing - Backward inclined aluminum wheel - Curb cap with prepunched mounting holes - Motor and drives isolated on shock mounts - Birdscreen - Ball bearing motors - Adjustable motor pulley - Adjustable motor plate - Fan shaft mounted in ball bearing pillow blocks - Bearings meet or exceed temperature rating of fan - Static resistant belts - Corrosion resistant fasteners - Sizes 141 and larger have internal lifting lugs.

Selected Options & Accessories:

Motor with CSA Approval
Standard Curb Cap Size - 19 Square
UL/cUL 705 Listed - "Power Ventilators"
Switch, NEMA-1, Toggle,
Junction Box Mounted & Wired in weather-protected motor compartment
Foam Curb Seal (Factory Applied)
Birdscreen: Galvanized, nom. 84% Free Area
Aluminum Wheel Material
Conduit Chase Qty 1

Unit Warranty: 1 Yr (Standard) Selected Sub Marks

See individual submittals for full details GPI-19-G18



Printed Date: 05/08/2025 **Job:** SHOPPERS DRUG MART #830

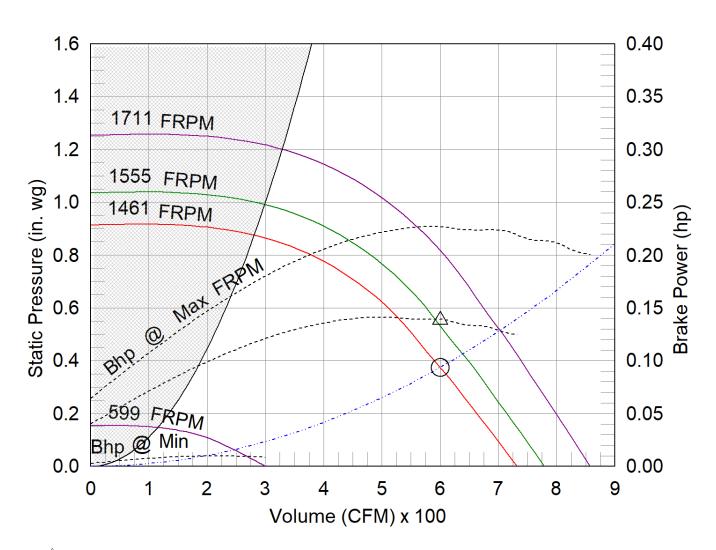
Mark: EF-1,2 **Model:** GB-098-6

GB-098-6

Min/Max Fan Curve

Performance

Requested Volume (CFM)	Actual Volume (CFM)	Total External SP (in. wg)	Fan RPM	Operating Power (hp)
600	600	0.375	1461	0.14



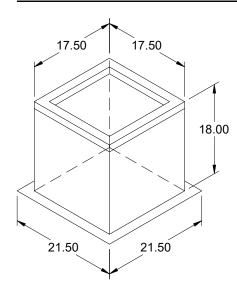
Operating Bhp point
 Operating point at Total External SP
 Construction Limit
 Motor/System Limit
 Fan curve
 Min FRPM
 System curve

----- Brake horsepower curve



Printed Date: 05/08/2025 **Job:** SHOPPERS DRUG MART #830

Mark: EF-1,2 Model: GPI-19-G18



Model: GPI

Roof Curb

Standard Construction Features:

- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure - Constructed of either 18 ga galvanized steel or 0.064 in. aluminum - Straight Sided without a cant - 2 in. mounting flange - 3 lb density insulation - Height - Available from 12 in. to 42 in. as specified in 0.5 in. increments. Notes: - The maximum roof opening dimension should not be greater than the "Actual" top outside dimension minus 2 in... - The minimum roof opening dimension should be at least 2.5 in. more than the damper dimension or recommended duct size. - The Roof Opening Dimension may or may not be the same as the Structural Opening Dimension. - Damper Tray is optional and must be specified. Tray size is same as damper size. - Security bars are optional and must be specified. Frames and gridwork are all 12 ga steel.

General

			Sizing	Undersizing	Weight	Shipped	
Tag	Qty	Model	Method	(in.)	(lb)	Assembled	Union Label
	2	GPI-19	Nominal	1.5	27	Yes	No Preference

Dimensions

	Nominal	Nominal	Actual	Actual	Actual	Actual	Hinge	Hinge	
Curb	Outside	Outside	Outside	Outside	Inside	Inside	Base	Base	
Height	Width	Length	Width	Length	Width	Length	Width*	Length*	
(in.)	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)	
18	19	19	17.5	17.5	14	14	18	18	
*May not be applicable									

Accessories

A0000001100									
Security			Insulation	Insulation					
Material	Bars	Liner	(in.)	R Value					
Galvanized	No	No	1	R4.3					



Dampers Submittals

Date Printed: 5/8/2025 **Spec Section:** 15 - HVAC

Contact: 571 Chrislea Rd., Unit 3

Woodbridge, ON L4L 8A2

Date Printed: 5/8/2025 Job Name:



All-In-One Detailed Submittal Schedule Dampers

#	Qty	Model	Width, Height	Design	Sections	Frame Style	Sleeve Length		
1	1 2 CCD 12.00, 12.00 3V 1,1 GV5 0.00								
3V - Foi	3V - Formed Triple-Vee Blades GV5 - 5" Frame Galvanized Steel								
2	2	DMPR-PRTS							



Model CCD-GV5-3V

Steel Construction 3V Blade

Commercial Control Damper - Steel

Model

Commercial Control Damper Steel
CCD-GV5-3V

Features

- The CCD-GV5-3V series Control Dampers have been designed and tested to provide a reliable cost effective control damper where tight sealing is not of primary importance. (Note: For tight sealing dampers see Model: CCD-GV5-3V-LL).
- The CCD-GV5-3V damper's rigid frame and integrally braced corners provide true damper alignment that greatly resists being installed out of square or out of flat.
- The CCD-GV5-3V is available in either parallel or opposed blade models.
- Damper section smaller than 48"w x 12"h (1219mm x 305mm) are furnished with a low profile top and bottom to maximize free areas.
- The CCD-GV5-3V series dampers may be made to accommodate higher than the recommended 2.5" w.g. static pressure. If application involves pressures in excess of 2.5" w.g. or velocities greater than 2000 fpm, contact the factory.
- Factory installed electric or pneumatic operators are available.

Standard Construction:

Frame: Roll-formed galvanized steel hatsection with staked corners with integral bracing.

Blades: 16-18 ga. triple-vee profile Roll-

formed, galvanized steel Minimum width: 4¹/₄" (108 mm) Maximum width: 7¹/₄" (184 mm)

Bearings: Bronze Oilite. Press fit into frame.

Axles: Square, plated steel.

Linkage: Concealed in frame. Linkage bars

are 12 ga. thick galvanized steel.

Finish: Mill galvanized.

Extended Shaft: Removable, 6" long x ½" dia. (152 mm x 13 mm) plated steel coupled to square axle.

Max. Temperature: 250°F

Sizes: Minimum size: 5"w x 4"h (127 mm x 102 mm) Maximum size: Single section -48" w x 72"h (1219 mm x 1829 mm) Multiple section - size unlimited

Options:

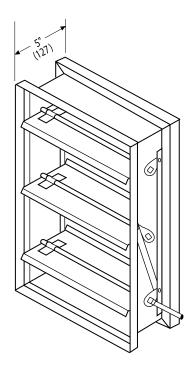
☐ **Bearings:** Nylon. Press-fit into frame.

☐ **Seals:** For pressure sensitive blade edge & jamb seals, see Model CCD-GV5-3V-LL.

Notes:

- Dampers fabricated ¹/₄" (6mm) under opening size unless otherwise noted
- Specify parallel or opposed blade action.
- All dampers 32" (813 mm) and over are supplied with Jackshafting. (See Jackshafting & Enclosure submittal drawing for details).

Specifications are correct at time of printing. However, as part of our continuous improvement program, we reserve the right to make further improvements without notice.



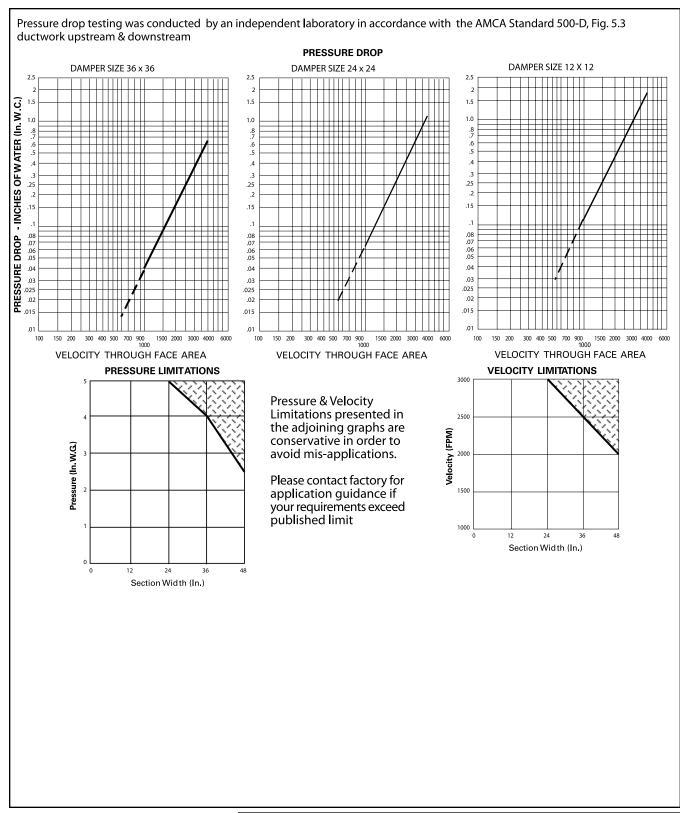
PROJECT:			1EE®
ENGINEER:			
CUSTOMER:		Jul / 12	
SUBMITTAL DATE: 5/8/2025	SPEC. SYMBOL:	244964	

■ Model CCD-GV5-3V

Steel Construction 3V Blade



Commercial Control Damper - Steel





Basic Fail-Safe actuator for controlling dampers in typical commercial HVAC applications.

- Torque motor 22 in-lb [2.5 Nm]
- Nominal voltage AC 100...240 V
- Control On/Off
- 1x SPDT

Technical data sheet





TFB120-S

5-year warranty





	7	
Technical data		
Electrical data	Nominal voltage	AC 100240 V
2.000.100.100.100.100.100.100.100.100.10	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 85265 V
	Power consumption in operation	2.5 W
	Power consumption in rest position	1.3 W
	Transformer sizing	5 VA
	Auxiliary switch	1x SPDT, 1 mA3 A (0.5 A inductive), DC 5 VAC 250 V, adjustable 095°
	Switching capacity auxiliary switch	1 mA3 A (0.5 A inductive), DC 5 VAC 250 V
	Electrical Connection	(2) 18 GA appliance cables, 1 m, with 1/2" NPT conduit connectors
	Overload Protection	electronic throughout 095° rotation
	Electrical Protection	actuators are double insulated
Functional data	Torque motor	22 in-lb [2.5 Nm]
	Direction of motion motor	selectable by ccw/cw mounting
	Direction of motion fail-safe	reversible with cw/ccw mounting
	Angle of rotation	Max. 95°
	Angle of rotation note	adjustable with mechanical stop
	Running Time (Motor)	75 s
	Running time fail-safe	<25 s @ -4122°F [-2050°C], <60 s @ -22°F [-30°C]
	Noise level, motor	50 dB(A)
	Noise level, fail-safe	62 dB(A)
	Position indication	Mechanical
Safety data	Degree of protection IEC/EN	IP42
	Degree of protection NEMA/UL	NEMA 2
	Enclosure	UL Enclosure Type 2
	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02
		CE acc. to 2014/30/EU and 2014/35/EU
	Quality Standard	ISO 9001
	UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-22122°F [-3050°C]
	Storage temperature	-40176°F [-4080°C]
	Servicing	maintenance-free

1.1 lb [0.50 kg]

Weight Weight



Technical data sheet TFB120-S

Materials Housing material UL94-5VA

Footnotes †Rated Impulse Voltage 4kV, Type of Action 1.AA.B, Control Pollution Degree 3.

Product features

Application

For On/Off, fail-safe control of dampers in HVAC systems. Actuator sizing should be done in accordance with the damper manufacturer's specifications. Control is On/Off from an auxiliary contact, or a manual switch. The actuator is mounted directly to a damper shaft from 1/4" up to 1/2" in diameter by means of its universal clamp, 1/2" shaft centered at delivery. A crank arm and several mounting brackets are available for applications where the actuator cannot be direct coupled to the damper shaft.

Operation

The TF series actuators provide true spring return operation for reliable fail-safe application and positive close off on air tight dampers. The spring return system provides consistent torque to the damper with, and without, power applied to the actuator. The TF series provides 95° of rotation and is provided with a graduated position indicator showing 0° to 90°. The actuator may be stalled anywhere in its normal rotation without the need of mechanical end switches. Power consumption is reduced in holding mode. The actuator is double insulated so an electrical ground connection is not necessary. The TF-S versions are provided with one built-in auxiliary switch. This SPDT switch is provided for safety interfacing or signaling, for example, for fan start-up. The switching function is adjustable between 0° and 95°.

Safety Note: Screw a conduit fitting into the actuator's bushing. Jacket the actuator's input and output wiring with suitable flexible conduit. Properly terminate the conduit in a suitable junction box.

Typical specification

On/Off spring return damper actuators shall be direct coupled type which require no crank arm and linkage and be capable of direct mounting to a shaft up to a 1/2" diameter and center a 1/2" shaft. The actuators must be designed so that they may be used for either clockwise or counter clockwise fail-safe operation. Actuators shall be protected from overload at all angles of rotation. If required, one SPDT auxiliary switch shall be provided having the capability of being adjustable. Actuators with auxiliary switch must be constructed to meet the requirements for Double Insulation so an electrical ground is not required to meet agency listings. Actuators shall be cULus listed, have a 5 year warranty, and be manufactured under ISO 9001 International Quality Control Standards. Actuators shall be as manufactured by Belimo.

Accessories

Electrical accessories	Description	Туре
	Auxiliary switch, mercury-free	P475
	Auxiliary switch, mercury-free	P475-1
	Signal simulator, Power supply AC 120 V	PS-100
	Cable conduit connector 1/2"	TF-CC US

Technical data sheet **TFB120**

Mechanical accessories

Description	Туре
Shaft extension 170 mm ø10 mm for damper shaft ø616 mm	AV6-20
Position indicator	IND-TF
for TFB(X)	
Shaft clamp	K8 US
for TFB(X)	
Ball joint suitable for damper crank arm KH8 / KH10	KG10A
Ball joint suitable for damper crank arm KH8	KG6
Ball joint suitable for damper crank arm KH8	KG8
Damper crank arm Slot width 8.2 mm, for ø1.05"	KH12
Damper crank arm Slot width 6.2 mm, clamping range ø1018 mm	KH6
Damper crank arm Slot width 8.2 mm, clamping range ø1018 mm	KH8
TFB(X) crankarm with 5/16" slot.	KH-TF US
TFB(X) crankarm with 1/4" slot.	KH-TF-1 US
Screw fastening kit	SB-TF
Push rod for KG10A ball joint 36" L, 3/8" diameter	SH10
Push rod for KG6 & KG8 ball joints (36" L, 5/16" diameter).	SH8
Anti-rotation bracket TF/NKQ/AM/NM/LM.	TF-P
Wrench 0.32 in and 0.39 in [8 mm and 10 mm]	TOOL-06
Angle of rotation limiter, with end stop	ZDB-TF
Mounting bracket	ZG-113
for TFB(X)	
Damper clip for damper blade, 3.5" width.	ZG-DC1
Damper clip for damper blade, 6" width.	ZG-DC2
Shaft extension for 3/8" diameter shafts (4" L).	ZG-LMSA-1
Shaft extension for 1/2" diameter shafts (5" L).	ZG-LMSA-1/2-5
TFB(X) crankarm adaptor kit (includes ZG-113).	ZG-TF112
TFB(X) crankarm adaptor kit (T bracket included).	ZG-TF2
Mounting kit	ZG-TF3
for TFB(X)	
Weather shield 13x8x6" [330x203x152 mm] (LxWxH)	ZS-100
Baseplate, for ZS-100	ZS-101
Weather shield 406x213x102 mm [16x8-3/8x4"] (LxWxH)	ZS-150

Electrical installation



Marning! Live electrical components!

During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

Meets cULus requirements without the need of an electrical ground connection.

Apply only AC line voltage or only UL-Class 2 voltage to the terminals of auxiliary switches. Mixed or combined operation of line voltage/safety extra low voltage is not allowed.

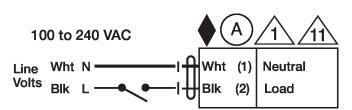
(A) Actuators with appliance cables are numbered.

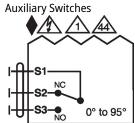
Provide overload protection and disconnect as required.

Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.

One built-in auxiliary switch (1x SPDT), for end position indication, interlock control, fan startup,

Wiring diagrams On/Off





Dimensions

