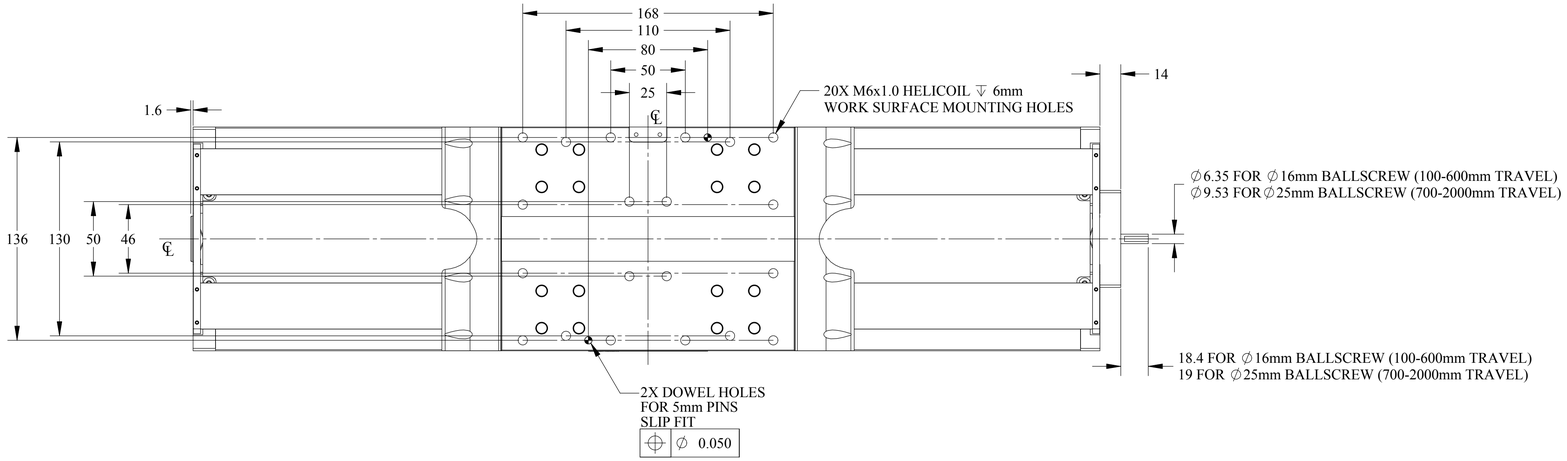
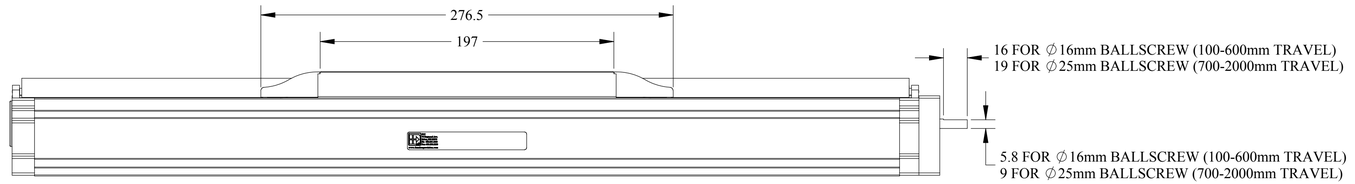
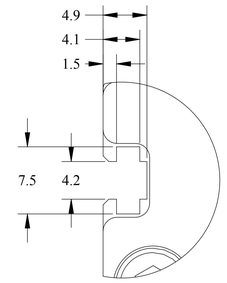
ECO	REV	DESCRIPTION	DATE	DONE BY
----	0	PRELIMINARY RELEASE	1/13/04	KDV
20752	A	PRODUCTION RELEASE	1/20/04	CAE
21281	B	VARIOUS UPDATES	10/28/04	AMC

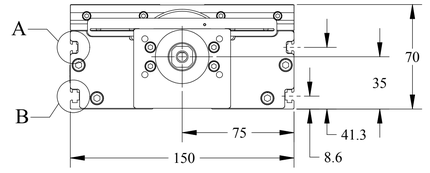
MODEL #	TRAVEL	"A"	"B"	"C"	"D"	"E"
DS6-100	100mm	408	12	8	1	1
DS6-200	200mm	508	12	8	1	1
DS6-300	300mm	608	16	12	2	2
DS6-400	400mm	708	16	12	2	2
DS6-500	500mm	808	20	16	3	3
DS6-600	600mm	908	20	16	3	3
DS6-700	700mm	1008	24	20	4	4
DS6-800	800mm	1108	24	20	4	4
DS6-900	900mm	1208	28	24	5	5
DS6-1000	1000mm	1308	28	24	5	5
DS6-1250	1250mm	1558	32	32	6	7
DS6-1500	1500mm	1808	40	36	8	8
DS6-1750	1750mm	2058	44	40	9	9
DS6-2000	2000mm	2308	48	44	10	10

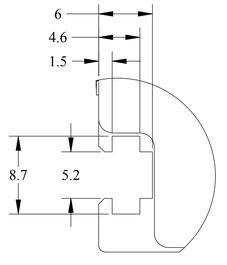






DETAIL A
SCALE 3 : 1





DETAIL B
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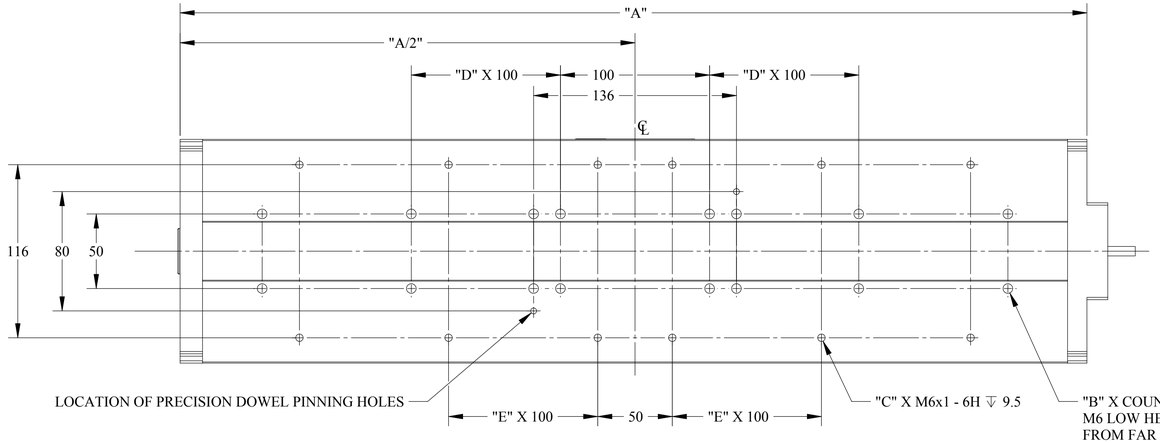
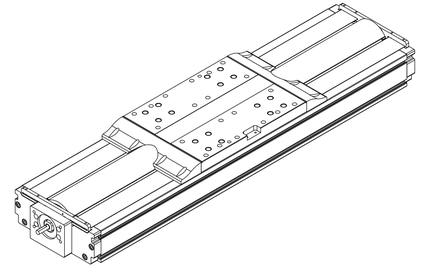




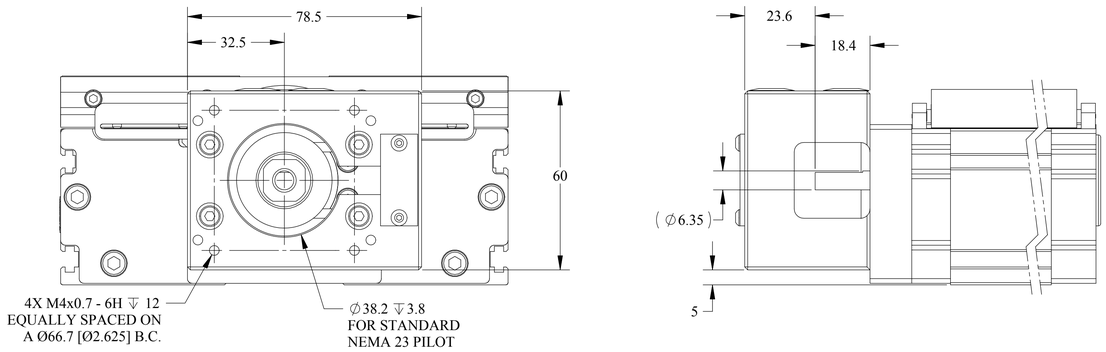
THIRD ANGLE PROJECTION

NOTE:
1.) TABLE SHOWN AT THE CENTER OF TRAVEL
2.) TO MAINTAIN CATALOG SPECIFICATIONS, THE DS6 MUST BE MOUNTED TO A SURFACE WITH FLATNESS ERROR NOT TO EXCEED 0.013mm/300mm.

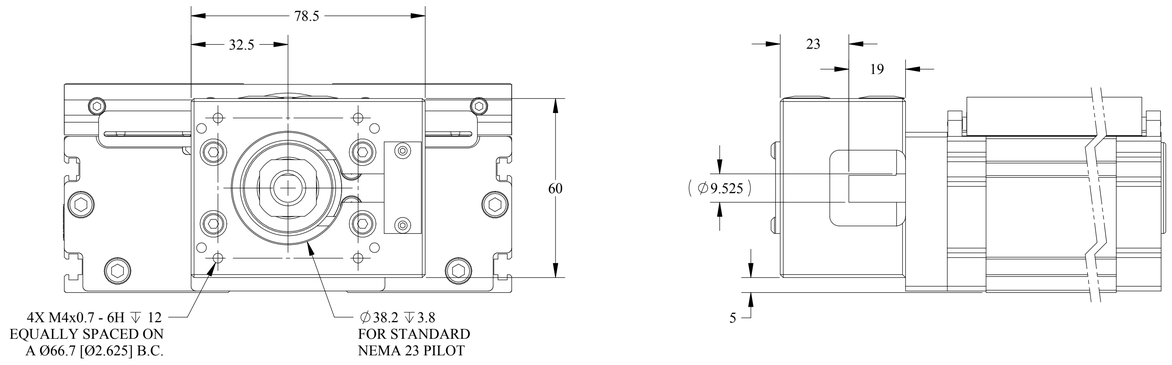
THIS DOCUMENT IS THE SOLE PROPERTY OF DANAHER MOTION AND IS NOT TO BE REPRODUCED OR USED WITHOUT WRITTEN CONSENT. COUNTERSINK TAPPED HOLES TO FULL THREAD DIA. x 90°.

TOLERANCES UNLESS OTHERWISE SPECIFIED		DANAHER MOTION	
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2 — SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:2 — UNITS: MM — SHEET 1 OF 15

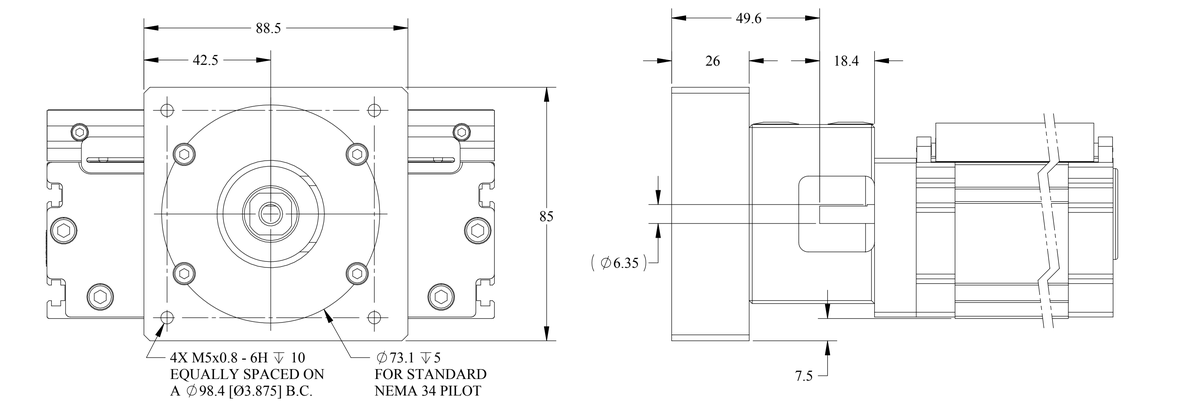
NEMA 23 MOTOR MOUNT, WITH Ø16mm BALLSCREW
MAX. MOTOR SHAFT LENGTH: 21mm



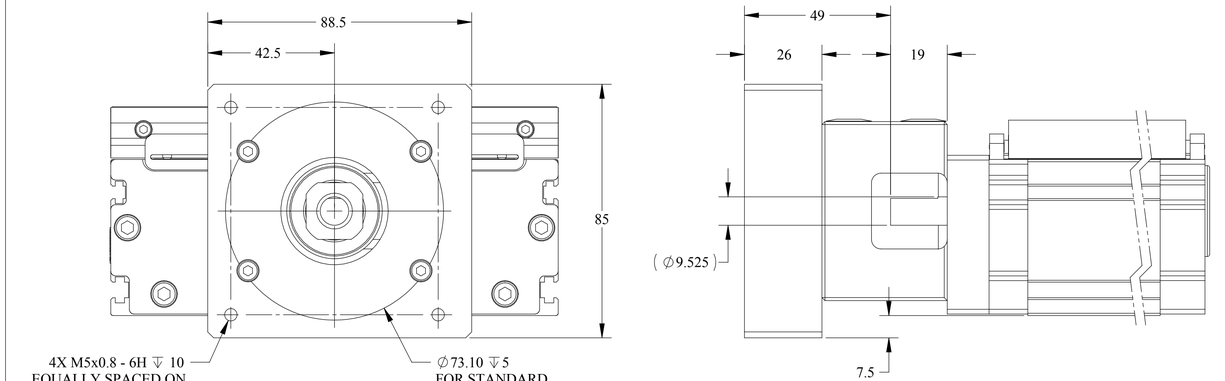
NEMA 23 MOTOR MOUNT, WITH Ø25mm BALLSCREW
MAX. MOTOR SHAFT LENGTH: 21mm



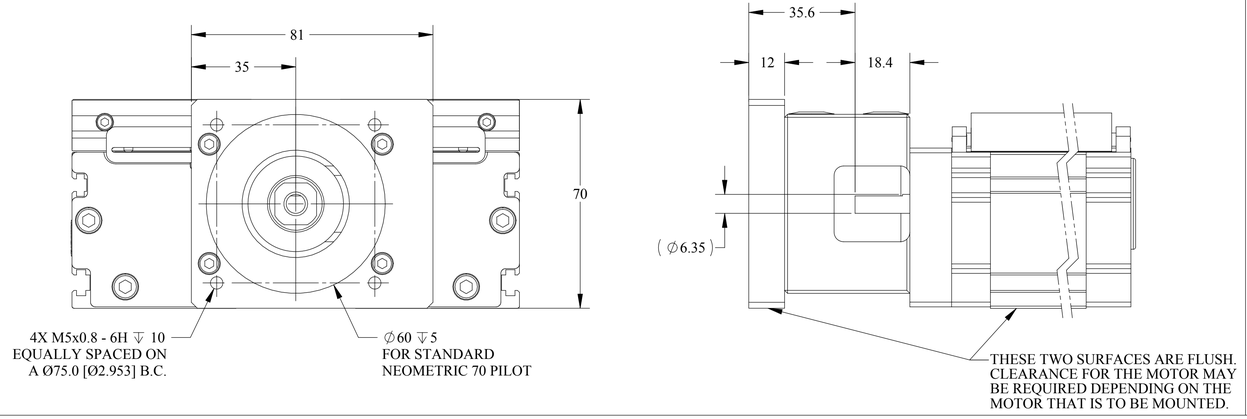
NEMA 34 MOTOR MOUNT, WITH Ø16mm BALLSCREW
MAX. MOTOR SHAFT LENGTH: 31mm



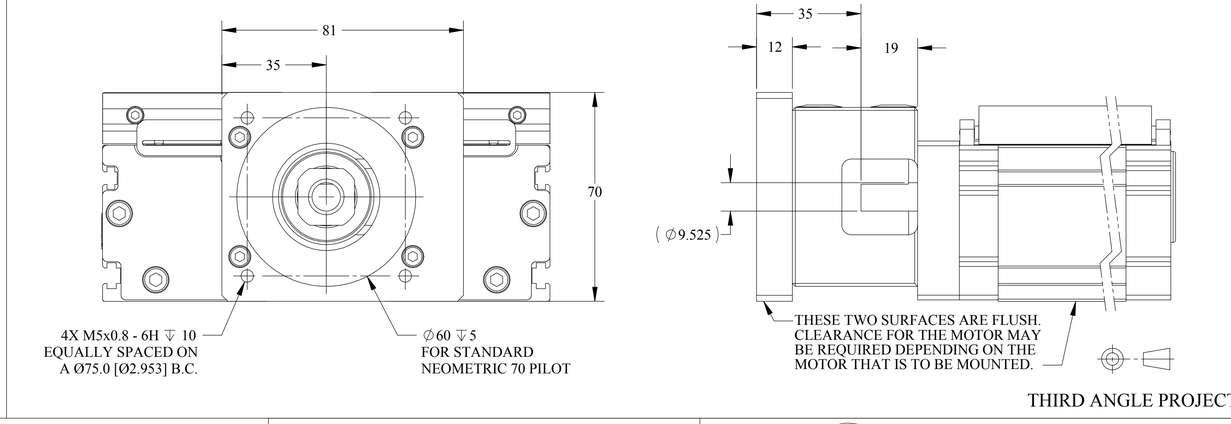
NEMA 34 MOTOR MOUNT, WITH Ø25mm BALLSCREW
MAX. MOTOR SHAFT LENGTH: 31mm



NEOMETRIC 70 MOTOR MOUNT, WITH Ø16mm BALLSCREW
MAX. MOTOR SHAFT LENGTH: 30mm



NEOMETRIC 70 MOTOR MOUNT, WITH Ø25mm BALLSCREW
MAX. MOTOR SHAFT LENGTH: 30mm



THIRD ANGLE PROJECTION

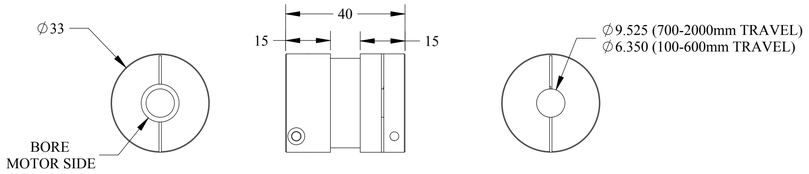
THIS DOCUMENT IS THE SOLE PROPERTY OF DANAHER MOTION
AND IS NOT TO BE REPRODUCED OR USED WITHOUT WRITTEN
CONSENT. COUNTERSINK TAPPED HOLES TO FULL THREAD DIA. x 90°.

TOLERANCES UNLESS OTHERWISE SPECIFIED		DANAHER MOTION	
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION MOTOR MOUNTING OPTIONS
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2 — SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:1 — UNITS: MM — SHEET 2 OF 15

ECO	SEE SHEET 1

BELLOWS STYLE
MOTOR SIDE BORE SIZES:
ENGLISH: 1/4"*, 3/8", 1/2", 5/8", 3/4"
METRIC: 11mm*, 14mm, 19mm

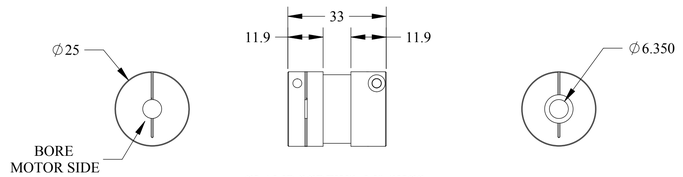
THIS COUPLING USED FOR ALL TRAVELS, EXCEPT
* ONLY FOR 700-2000mm TRAVEL UNITS



CLAMP SCREWS: M3 SHCS
ALLEN WRENCH SIZE 2.5mm

BELLOWS STYLE
MOTOR SIDE BORE SIZES:
ENGLISH: 1/4"
METRIC: 5mm*, 8mm*, 9mm*, 11mm

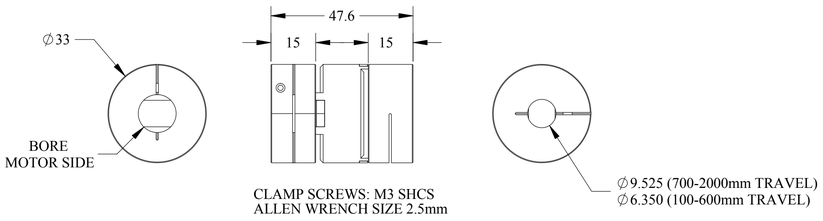
THIS COUPLING USED ONLY FOR 100-600mm TRAVEL UNITS
* THESE BORES AVAILABLE ONLY FOR 100-600mm TRAVEL UNITS



CLAMP SCREWS: M3 SHCS
ALLEN WRENCH SIZE 2.5mm

OLDHAM STYLE
MOTOR SIDE BORE SIZES:
ENGLISH: 1/4", 3/8", 1/2", 5/8", 3/4"
METRIC: 11mm, 14mm, 19mm

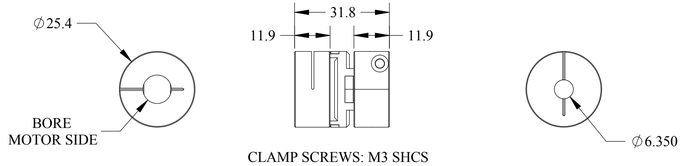
THIS COUPLING USED FOR ALL TRAVELS



CLAMP SCREWS: M3 SHCS
ALLEN WRENCH SIZE 2.5mm

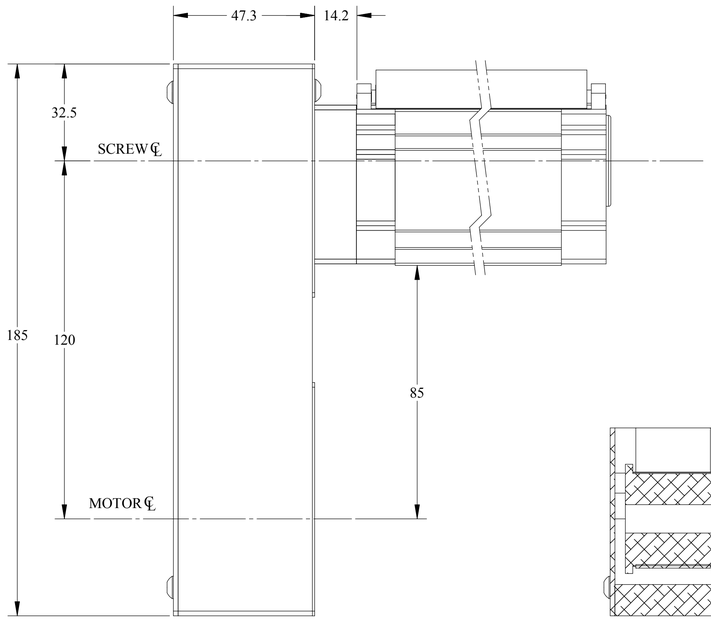
OLDHAM STYLE
MOTOR SIDE BORE SIZES:
METRIC: 5mm, 8mm, 9mm

THIS COUPLING USED ONLY FOR 100-600mm TRAVEL UNITS
THESE BORES ONLY AVAILABLE FOR 100-600mm TRAVEL UNITS

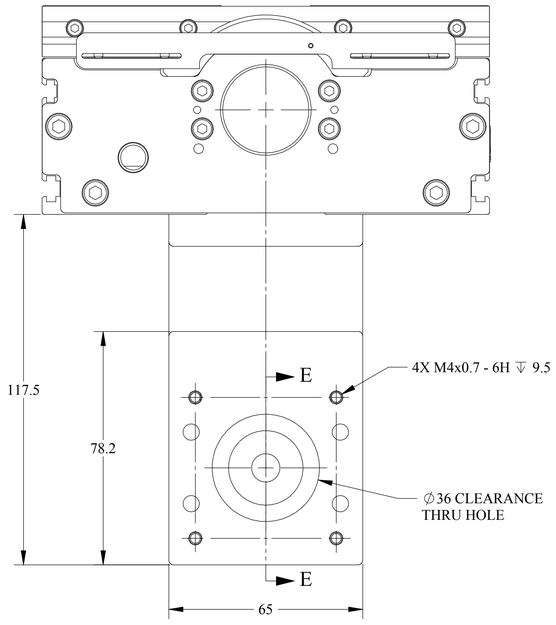


CLAMP SCREWS: M3 SHCS
ALLEN WRENCH SIZE 2.5mm

23 FRAME PARALELL UNDER MOUNT



SECTION E-E



GENERAL NOTES:
1.) PULLEY SPACING SHOWN APPLIES TO BOTH THE MOTOR PULLEY (SHOWN) AND THE DRIVEN PULLEY.
2.) ANY OF THE STANDARD MOTOR MOUNTING PLATES CAN BE APPLIED IN ANY OF THE THREE PARALELL MOUNTING CONFIGURATIONS. ALL PLATES MOUNT WITH THE CENTER POINT AT THE SAME POSITION AS THE PLATE SHOWN.

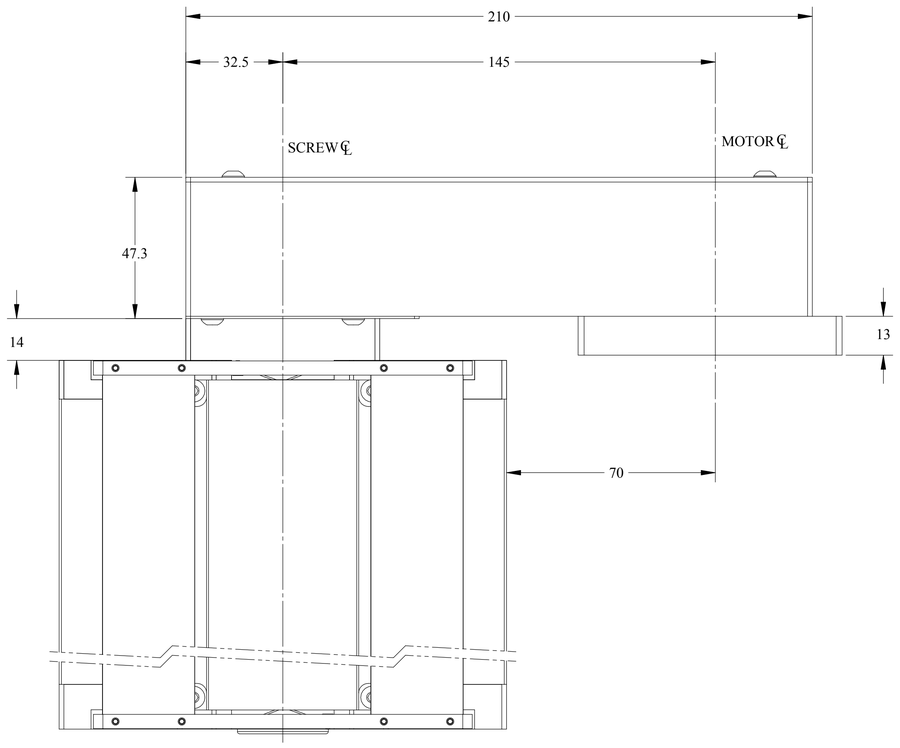
THIRD ANGLE PROJECTION

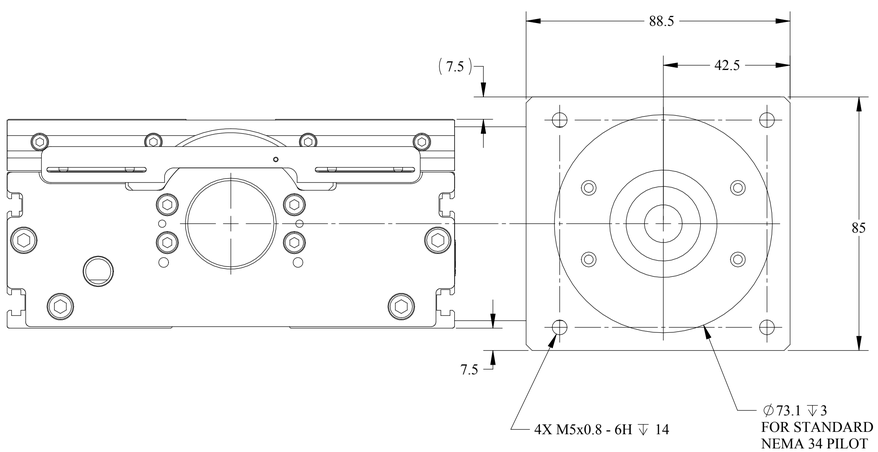
THIS DOCUMENT IS THE SOLE PROPERTY OF DANAHER MOTION AND IS NOT TO BE REPRODUCED OR USED WITHOUT WRITTEN CONSENT. COUNTERSINK TAPPED HOLES TO FULL THREAD DIA. x 90°.

TOLERANCES UNLESS OTHERWISE SPECIFIED		DANAHER MOTION	
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION COUPLINGS AND PARALELL MOUNT
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2 — SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:1 — UNITS: MM — SHEET 3 OF 15

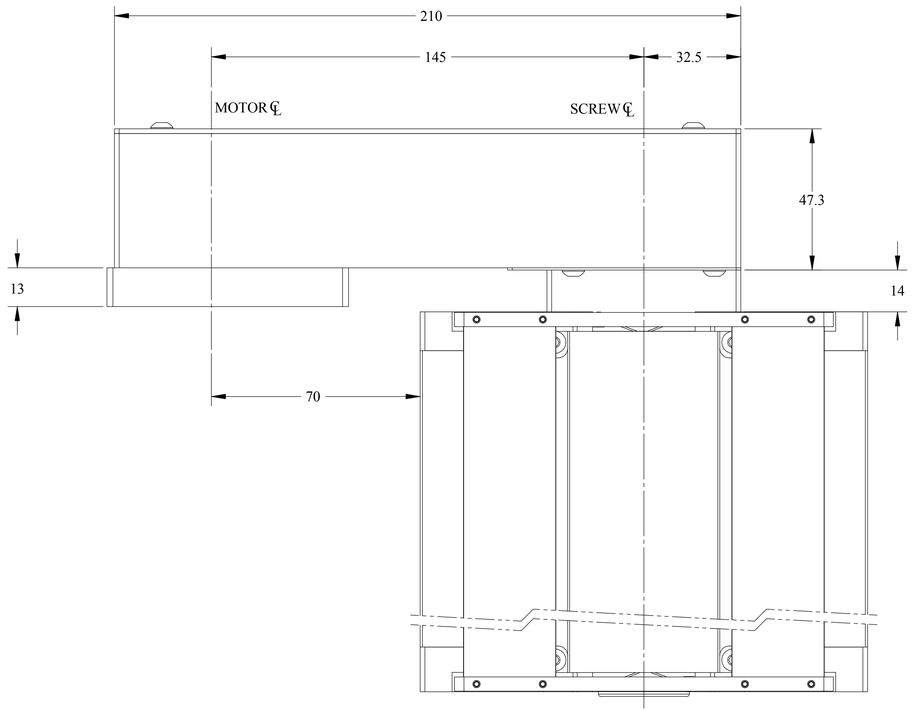
ECO	SEE SHEET 1

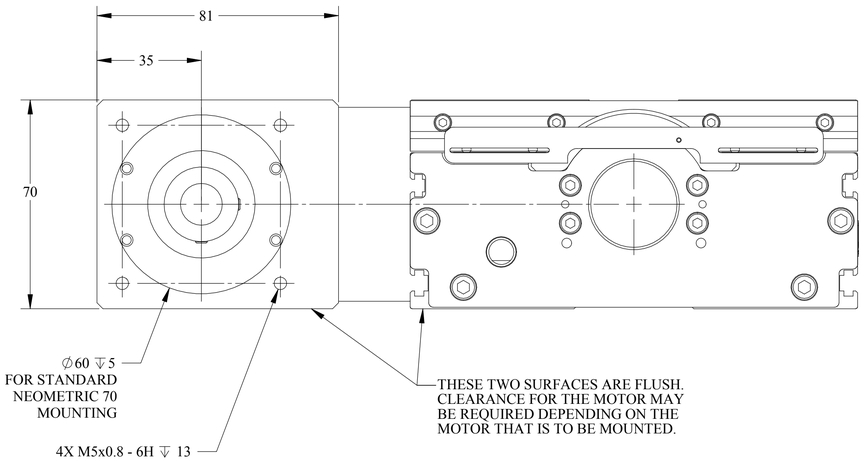
34 FRAME PARALELL LEFT MOUNT





NEOMETRIC 70 PARALELL RIGHT MOUNT





THIRD ANGLE PROJECTION

GENERAL NOTES:
1.) PULLEY SPACING SHOWN ON PAGE 3, SECTION E-E, APPLIES TO BOTH THE MOTOR PULLEY AND THE DRIVEN PULLEY, IN ALL INSTANCES.
2.) ANY OF THE STANDARD MOTOR MOUNTING PLATES CAN BE APPLIED IN ANY OF THE THREE PARALELL MOUNTING CONFIGURATIONS. ALL PLATES MOUNT WITH THE CENTER POINT AT THE SAME POSITION AS THE PLATE SHOWN.

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TOLERANCES UNLESS OTHERWISE SPECIFIED		DANAHER MOTION		
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION PARALELL MOUNTS	
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2	SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:1 UNITS: MM	SHEET 4 OF 15

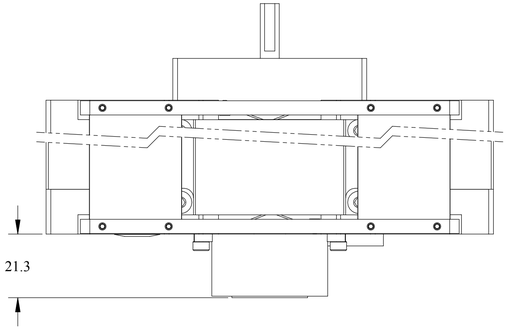
ROTARY ENCODER OPTION (-ES)

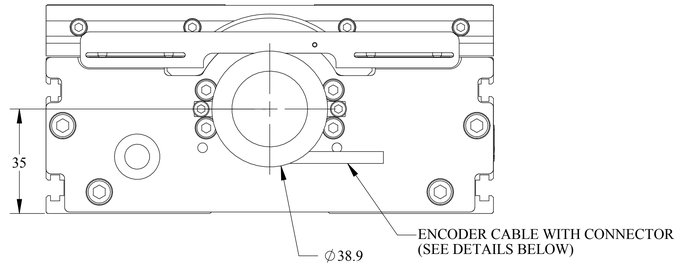
IMPORTANT:

TO REMOVE THE ENCODER:
- GENTLY PULL OFF THE ENCODER COVER,
- LOOSEN THE TWO M2 MOUNTING SCREWS (BUT DO NOT REMOVE),
- LOOSEN THE SET SCREW IN THE HUB,
- PULL SLIDE/LOCK MECHANISM TO EXTENDED POSITION,
- REMOVE MOUNTING HARDWARE, AND
- SLIDE THE ENCODER OFF THE SCREW SHAFT.

TO RE-INSTALL THE ENCODER:
- SLIDE ENCODER ONTO THE SCREW SHAFT, BY PUSHING ON THE HUB ONLY, UNTIL ENCODER IS RESTING ON MOUNTING SURFACE,
- PRESS DOWN ON HUB TO ENSURE IT IS SEATED PROPERLY AND TIGHTEN SET SCREW, (SET SCREW SHOULD BE LOCATED OVER THE FLAT ON THE SHAFT)
- INSTALL AND SECURE THE TWO M2 MOUNTING SCREWS,
- PRESS IN THE SLIDE/LOCK MECHANISM COMPLETELY, AND
- SNAP ON THE ENCODER COVER.

NOTE THAT THE ENCODER REFERENCE MARKER POSITION MAY CHANGE SLIGHTLY EACH TIME THIS IS DONE. IF THIS POSITION IS CRITICAL FOR HOMING THE SYSTEM, IT IS RECOMMENDED THAT THE ENCODER NOT BE REMOVED - CONSULT FACTORY FOR ALTERNATIVE SOLUTIONS.





ROTARY ENCODER SPECIFICATIONS
Modular Incremental Type Rotary Encoder

ELECTRICAL
Output Format: Square-Wave, Two-Channel quadrature with index.
Resolution: 1250 lines/rev (5000ppr post quadrature), one index line.
Supply Voltage: 5VDC ±5%
Current Requirements: 135mA
Output Frequency: 200kHz MAX

MECHANICAL
Weight: 57g MAX
Inertia: 5.16g-cm²
Cover Material: Glass-Filled Polycarbonate

ENVIRONMENTAL
Operating Temperature: -10°C to +100°C
Storage Temperature: -30°C to +110°C
Humidity: 90% relative (non-condensing)
IP Rating: IP40
Shock: 50 G's for 11ms duration
Vibration: 5-2000Hz @ 10 G's

CABLE
Cable Length: 457mm ± 26mm
Cable Type: 8x 28 guage conductors with PVC insulation, polyester foil shield w/ drain wire, in PVC cable jacket.
Connector: AMP P/N 103971-7 or equivalent
Mating Connector: Any 0.635mm non-polarized single row header (2.54mm centers) or may be intalled into single row latching shroud (AMP P/N 103680-5)

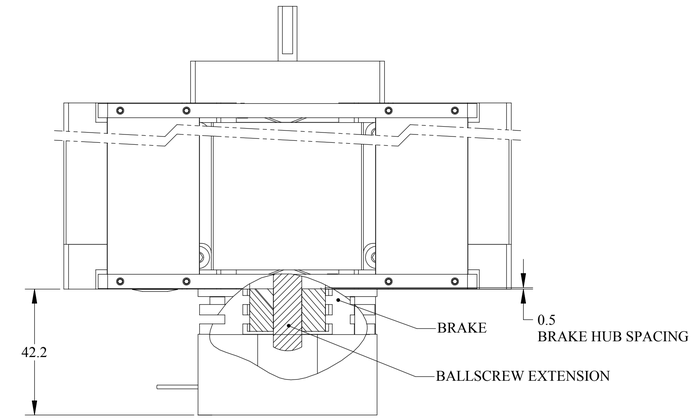
Pin	Function	Wire Color
1	+VCC	Red
2	GND	Black
3	CH A	White
4	CH A NOT	Yelllow
5	CH B	Green
6	CH B NOT	Blue
7	INDEX	Orange
8	INDEX NOT	Brown
-	SHIELD	Drain

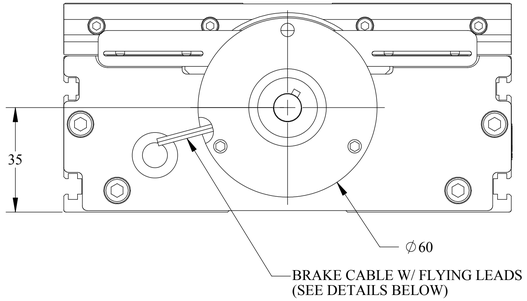
POWER-OFF BRAKE OPTION: (-BS)

TO REMOVE THE BRAKE:
- REMOVE THE TWO M4 X 10MM MOUNTING SCREWS,
- PULL THE BRAKE OFF THE DS4.

IT IS NOT NECESSARY TO REMOVE THE BRAKE HUB FROM THE BALLSCREW.

TO RE-INSTALL THE BRAKE:
- PRESS THE BRAKE ONTO THE MOUNTING SURFACE SO THAT THE INTERNAL TEETH MESH WITH THE TEETH ON THE HUB,
- WHEN THE BRAKE IS PROPERLY SEATED, ROTATE TO ALIGN THE MOUNTING HOLES,
-INSERT AND TIGHTEN THE MOUNTING SCREWS.





BRAKE SPECIFICATIONS
Electromagnetic Power-Off Type Brake

ELECTRICAL
Coil Voltage: 24VDC
Current Draw: 516mA
Resistance: 46.5 Ohms ±7% (nominal)
Power: 13W MAX

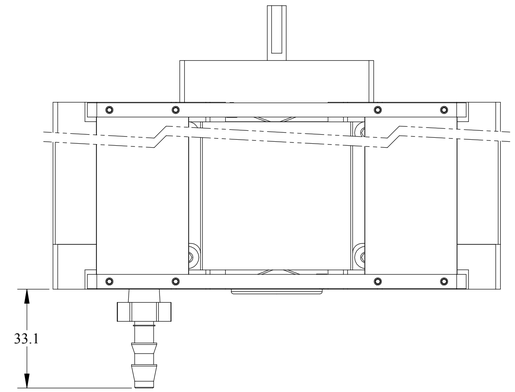
MECHANICAL
Holding Torque: 5.65Nm
Weight: 520g
Inertia: 34.5kg-cm²

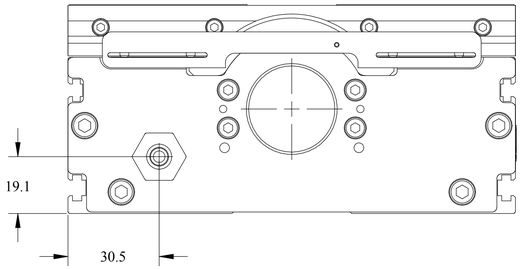
Armature Engagement: 120ms
Armature Disengagement: 20ms

Max Operating Temperature: 180°C

CABLE
Cable Length: 300mm MIN
Cable Type: 2x 22 guage conductors with Teflon insulation

AIR PURGE FITTING (INCLUDED)





AIR PURGE OPTION
Plastic barbed fitting ships with unit.

This option can be used to positively pressurize the unit to prevent particulates from entering the unit.

To utilize this option remove black plastic plug, and thread in the included 1/8-NPT barbed fitting. Attach a piece of 1/4" inner diameter plastic tubing (not included) to the barbed fitting and lead out to a CLEAN air source.

Recommended Max Pressure to unit: 14-20kPa (2-3psi)

THIRD ANGLE PROJECTION

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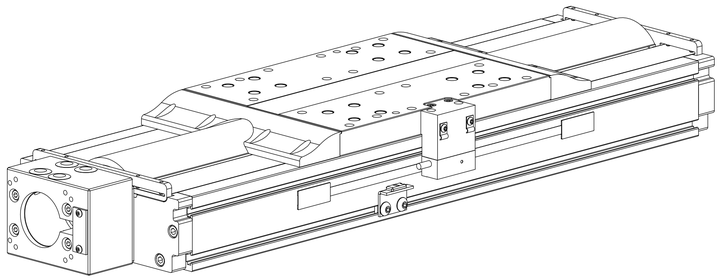
TOLERANCES UNLESS OTHERWISE SPECIFIED		DANAHER MOTION	
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION ROTARY ENCODER / BRAKE OPTIONS
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2 SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:1 UNITS: MM SHEET 5 OF 15



LINEAR ENCODER SPECIFICATIONS

Resolution: 0.1µm; 0.5µm; 1.0µm; (Incremental)
Signal: Square wave differential line driver; Two chanel quadrature

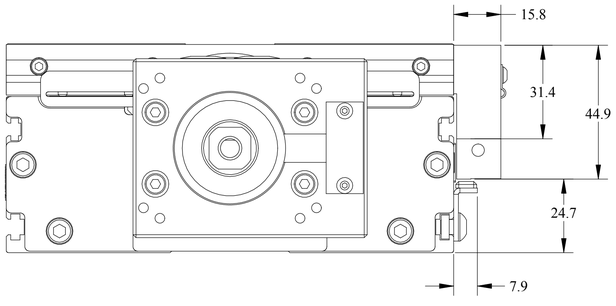
Power Supply: 5VDC ±5%, 120mA (0.5µm and 1.0µm)
150mA (0.1µm only)

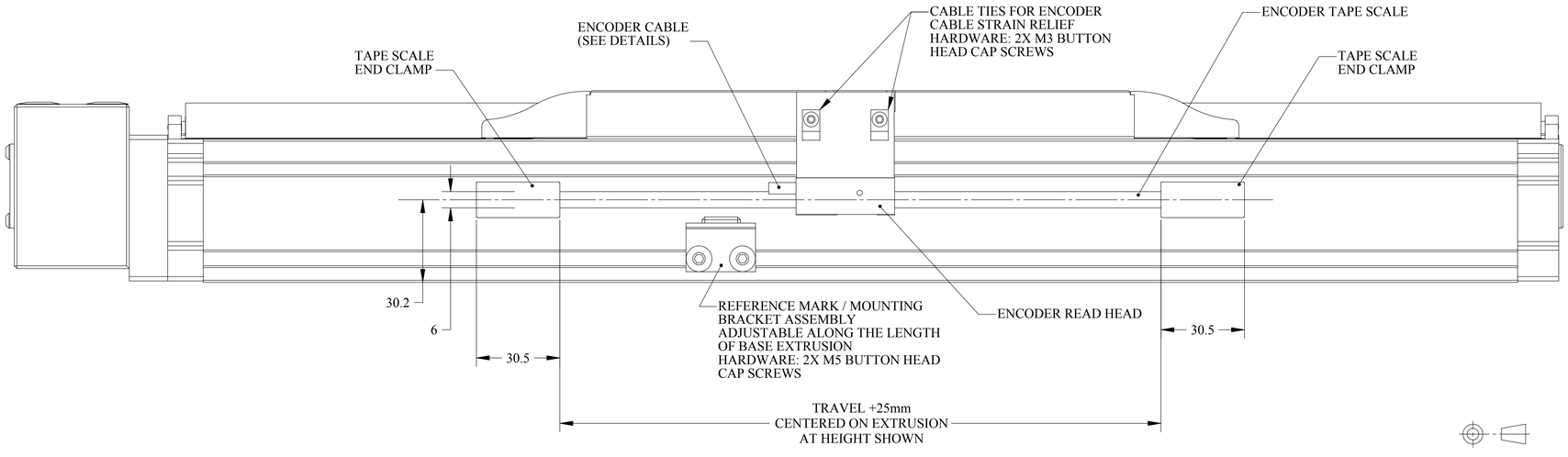
Operating Temperature: 0˚C to +55˚C
Storage Temperature: -20˚C to +70˚C
Humidity: 10-90% RH (non-condensing)
Sealing: IP40
Acceleration: 30g (operating)
Shock: 100g for 11ms duration (non-operating)
Vibration: 10g @ 55-2000Hz (operating)

Accuracy: ±3µm/m with linear compensation
Linearity: ±1µm/60mm; ±3µm/m

Cable Type: 1.5m ∅4.2mm integral double shielded cable
w/ 9-pin 'D' type plug
Cable Flex Life: >20 million cycles at 20mm bend radius

Pin	Function	Wire Color
1	0VDC	White
2	CH A	Green
3	CH Z	Pink
4	CH B	Blue
5	+5VDC	Brown
6	CH A NOT	Yellow
7	CH Z NOT	Grey
8	CH B NOT	Red
9	Inner Shield	-----
-	Outer Shield	-----

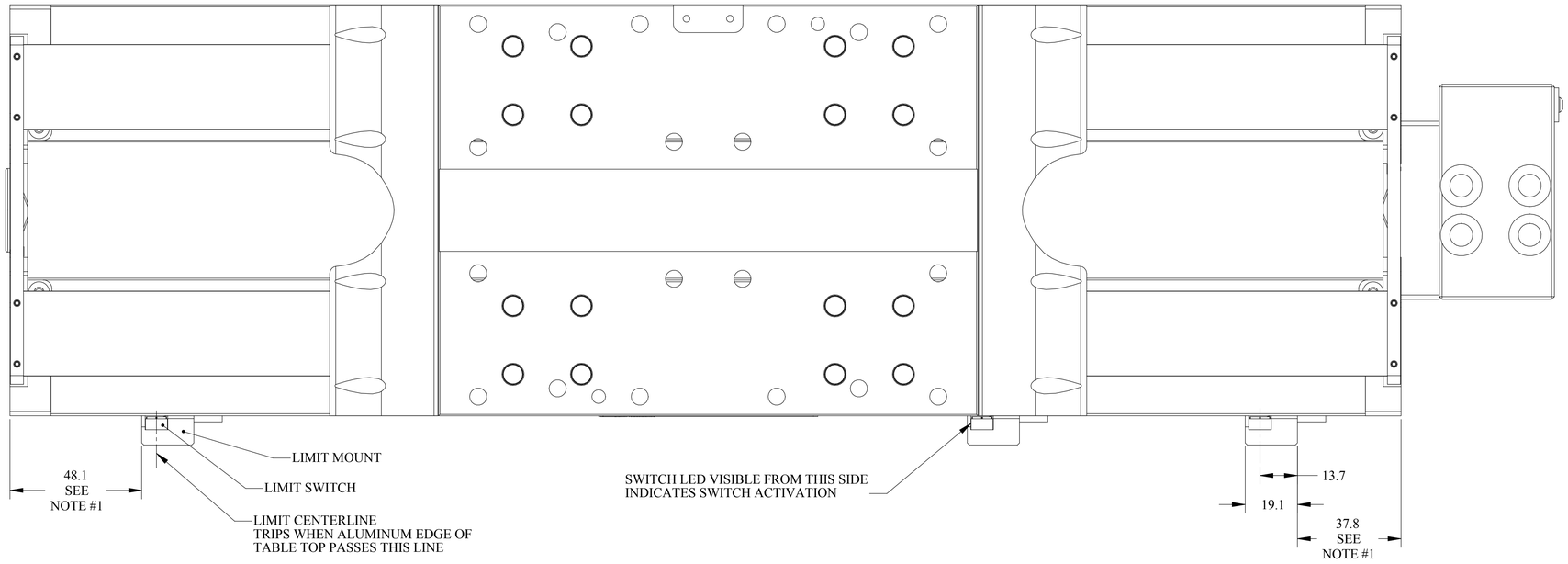


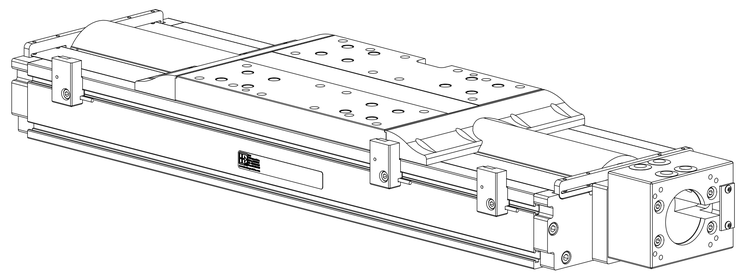


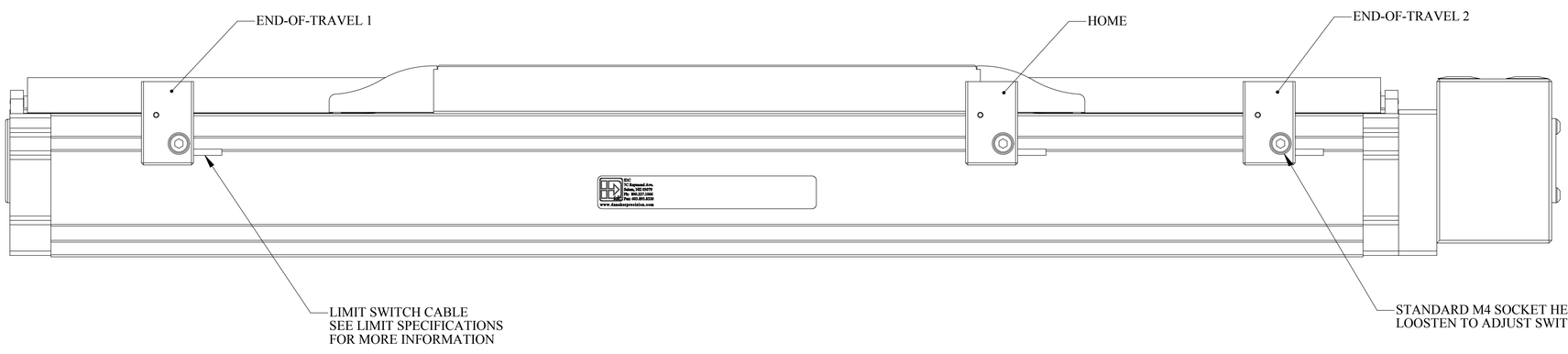
THIRD ANGLE PROJECTION

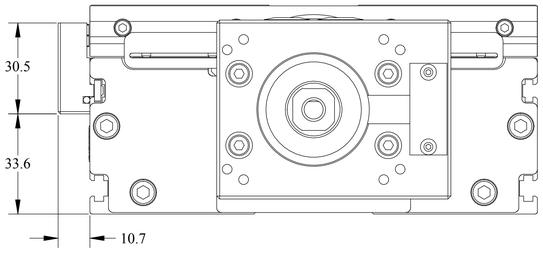
THIS DOCUMENT IS THE SOLE PROPERTY OF DANAHER MOTION
AND IS NOT TO BE REPRODUCED OR USED WITHOUT WRITTEN
CONSENT. COUNTERSINK TAPPED HOLES TO FULL THREAD DIA. x 90°.

TOLERANCES UNLESS OTHERWISE SPECIFIED		DANAHER MOTION	
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION LINEAR ENCODER OPTION
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2 — SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:1 — UNITS: MM — SHEET 6 OF 15









LIMIT SWITCH SPECIFICATIONS:
Inductive Proximity Sensors

Available Types: NPN Normally Open / Closed
PNP Normally Open / Closed

Repeatibility: ±8µm

Power Supply: 5 to 30 VDC
Current Consumption: ≤10ma
Current Capacity: 100ma

Temperature Range: -20°C to +70°C
Sealing: IP67

Cable: 5m Cable w/ 3 x 28AWG conductors and flying leads

WIRING COLORS
+VDC Brown
Ground Blue
Signal Black

NOTES:
1. MINIMUM DISTANCE FROM END OF TABLE TO LIMIT SWITCH MOUNT TO ENSURE LIMIT TRIPS PRIOR TO TABLE HARD STOP BEING REACHED.
2. ALL SWITCH ASSEMBLIES ARE FULLY ADJUSTABLE ALONG THE LENGTH OF THE BASE EXTRUSION. TO ADJUST POSITION, SLIGHTLY LOOSEN M4 SCREW, MOVE SWITCH TO DESIRED LOCATION, AND RE-TIGHTEN SCREW.

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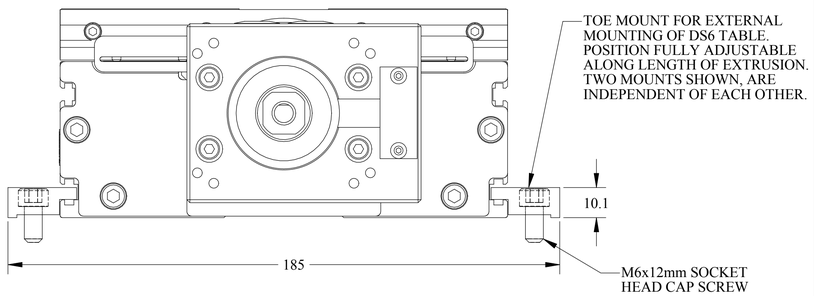
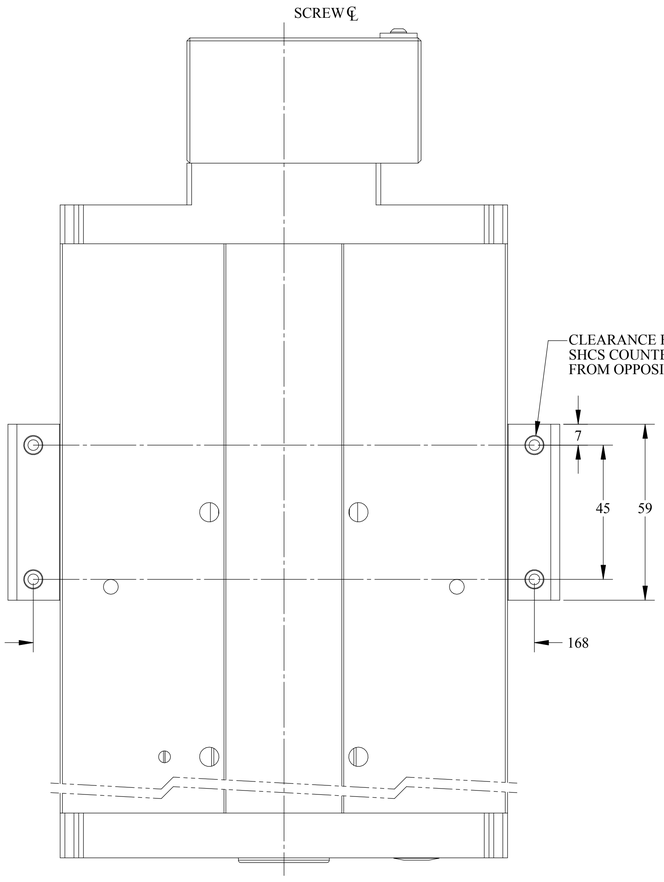
THIRD ANGLE PROJECTION

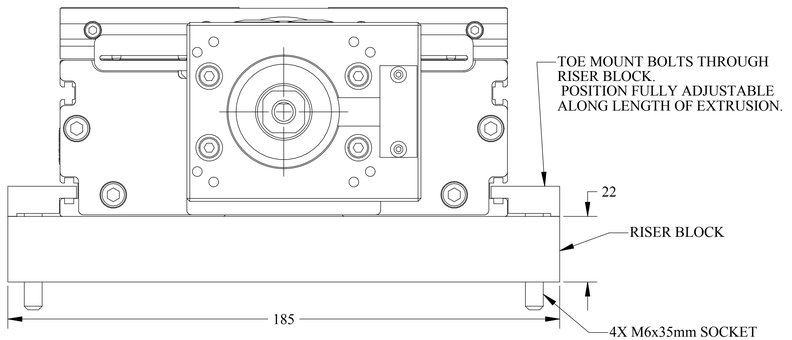
TOLERANCES UNLESS OTHERWISE SPECIFIED		DANAHER MOTION	
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION LIMIT / HOME SWITCH OPTION
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2 — SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:1 — UNITS: MM — SHEET 7 OF 15

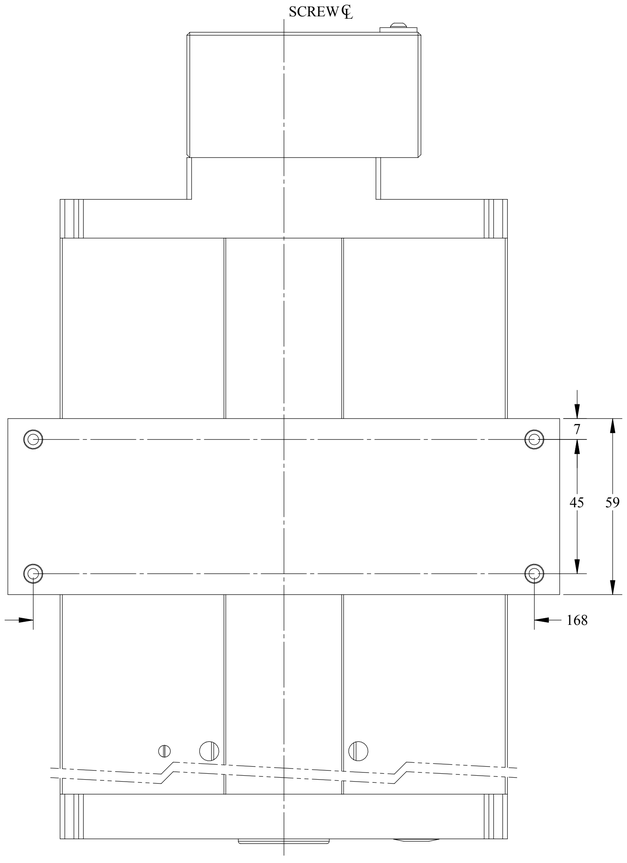




DS6 MODEL	MOUNTING SETS
DS6-100	3
DS6-200	3
DS6-300	4
DS6-400	5
DS6-500	5
DS6-600	6
DS6-700	7
DS6-800	7
DS6-900	8
DS6-1000	9
DS6-1250	10
DS6-1500	12
DS6-1750	14
DS6-2000	15

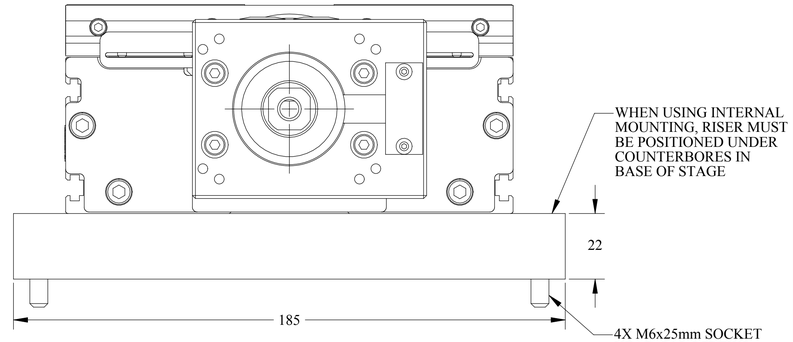
RECOMMENDED TOE CLAMP MOUNT SPACING: APPROXIAMATELY ONE SET EVERY 150mm
ONE SET (P/N: 12-0273) INCLUDES:
2X TOE MOUNT BLOCKS
4X M6 SHCS 12mm LONG
THIS MOUNTING OPTION IS INDEPENDENT OF THE INTERNAL COUNTERBORE POSITIONS. THE TABLE SHOWS THE MINIMUM NUMBER OF RISER MOUNT SETS, THAT SHOULD BE ORDERED WITH A PARTICULAR LENGTH DS6.
IMPORTANT: PUBLISHED DS6 SPECIFICATIONS DO NOT APPLY WHEN USING THIS MOUNTING OPTION.
ACTUAL DS6 PERFORMANCE WILL DEPEND ON RISER BLOCK SPACING, LOADS, AND MOVE PROFILES. FOR SPECIFICATION CRITICAL APPLICATIONS, CONSULT IDC.

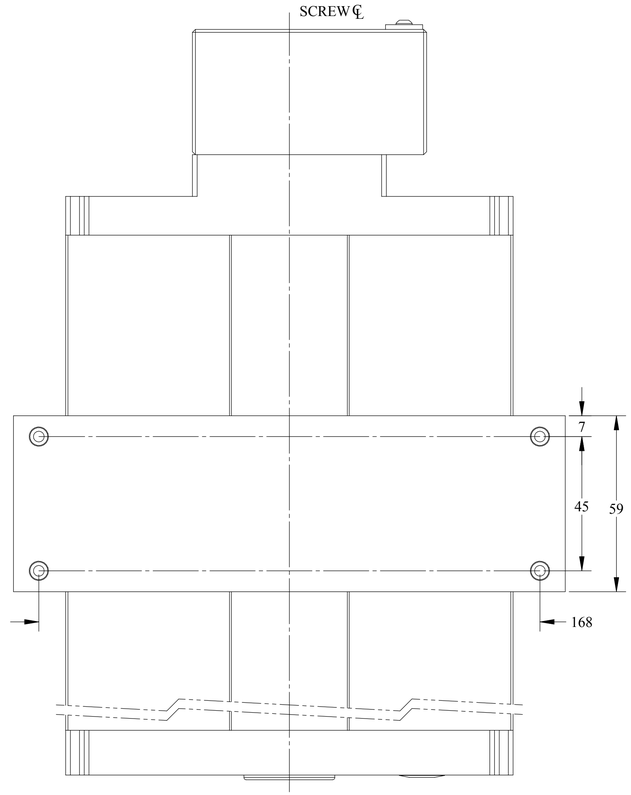




DS6 MODEL	MOUNTING SETS
DS6-100	3
DS6-200	3
DS6-300	4
DS6-400	5
DS6-500	5
DS6-600	6
DS6-700	7
DS6-800	7
DS6-900	8
DS6-1000	9
DS6-1250	10
DS6-1500	12
DS6-1750	14
DS6-2000	15

RECOMMENDED TOE CLAMP MOUNT SPACING: APPROXIMATELY ONE SET EVERY 150mm.
ONE SET (P/N: 12-0274) INCLUDES:
2X TOE MOUNT BLOCKS
1X WIDE RISER BLOCK
4X M6 SHCS 35mm LONG
THIS MOUNTING OPTION IS INDEPENDENT OF THE INTERNAL COUNTERBORE POSITIONS. THE TABLE SHOWS THE MINIMUM NUMBER OF RISER MOUNT SETS, THAT SHOULD BE ORDERED WITH A PARTICULAR LENGTH DS6.
IMPORTANT: PUBLISHED DS6 SPECIFICATIONS DO NOT APPLY WHEN USING THIS MOUNTING OPTION.
ACTUAL DS6 PERFORMANCE WILL DEPEND ON RISER BLOCK SPACING, LOADS, AND MOVE PROFILES. FOR SPECIFICATION CRITICAL APPLICATIONS, CONSULT IDC.





DS6 MODEL	MOUNTING SETS
DS6-100	4
DS6-200	4
DS6-300	6
DS6-400	6
DS6-500	8
DS6-600	8
DS6-700	10
DS6-800	10
DS6-900	12
DS6-1000	12
DS6-1250	14
DS6-1500	18
DS6-1750	20
DS6-2000	22

RECOMMENDED RISER MOUNT SPACING: ONE MOUNT AT EVERY INTERNAL COUNTERBORE, EXCEPT THE CENTRAL PATTERN OF FOUR, SPACED AT 136mm.
ONE SET (P/N: 12-0275) INCLUDES:
1X WIDE RISER BLOCK
2X M6 SHCS 12mm LONG
4X M6 SHCS 25mm LONG
THIS MOUNTING OPTION MUST BE ALIGNED WITH THE INTERNAL COUNTERBORE POSITIONS. THE TABLE SHOWS THE MINIMUM NUMBER OF RISER MOUNT SETS, THAT SHOULD BE ORDERED WITH A PARTICULAR LENGTH DS6.
IMPORTANT: PUBLISHED DS6 SPECIFICATIONS DO NOT APPLY WHEN USING THIS MOUNTING OPTION.
ACTUAL DS6 PRFORMANCE WILL DEPEND ON RISER BLOCK SPACING, LOADS, AND MOVE PROFILES. FOR SPECIFICATION CRITICAL APPLICATIONS, CONSULT IDC.

THIRD ANGLE PROJECTION

NOTES:
1. THIS PAGE SHOWS THE EXTERNAL MOUNTING OPTIONS. FOR INTERNAL COUNTERBORE MOUNTING, SEE SHEET 1. TO MOUNT WITH TAPPED HOLES SEE SHEET 1.
2. TO MAINTAIN CATALOG SPECIFICATIONS, THE DS6 MUST BE MOUNTED TO A SURFACE WITH FLATNESS ERROR NOT TO EXCEED 0.013mm/300mm. FOR SPECIFICATION CRITICAL APPLICATIONS, IT IS RECCOMENDED THAT THE INTERNAL COUNTERBORES OR THE TOE MOUNTS BE USED TO MOUNT THE DS6 TO A FLAT SURFACE. TOE MOUNTS MUST BE EQUALLY SPACED ALONG THE ENTIRE LENGTH OF THE UNIT. FULL LENGTH RISER PLATES ARE AVAILABLE UPON REQUEST.

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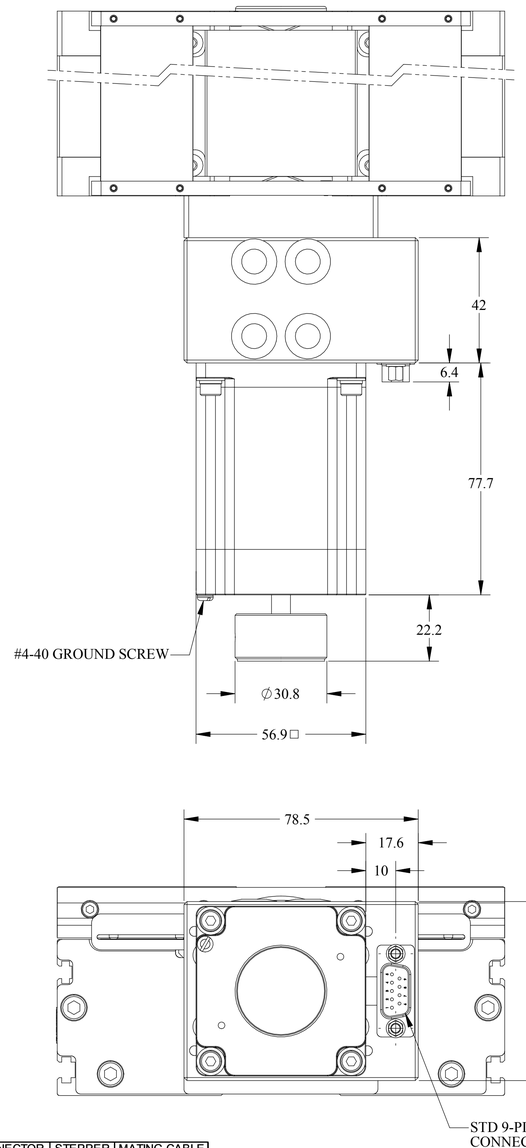
TOLERANCES UNLESS OTHERWISE SPECIFIED			DANAHER MOTION
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION MOUNTING OPTIONS
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2 — SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:1 — UNITS: MM — SHEET 8 OF 15

ECO	SEE SHEET 1

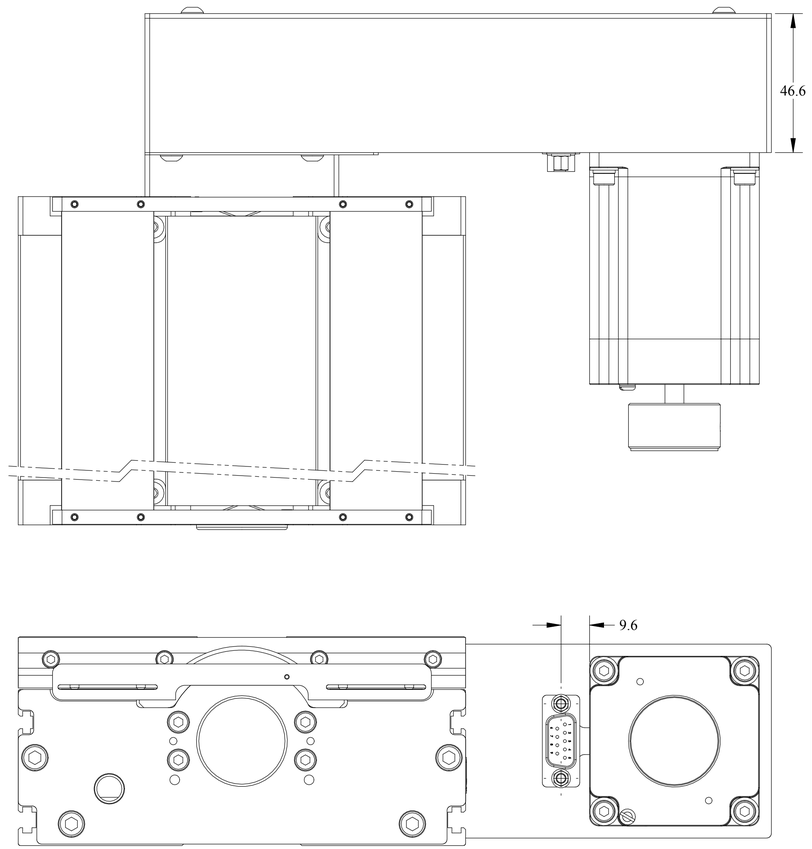
T22 MOTOR - INLINE MOUNT WITH CONNECTOR



MOTOR CONNECTOR PIN #	STEPPER	MATING CABLE WIRE COLOR
1	A+	RED
2	A-	ORANGE
3	N/C	WHITE
4	B+	GREEN
5	B-	BLUE
6	N/C	BLACK
7	N/C	VIOLET
8	N/C	YELLOW
9	N/C	BROWN
METAL HOOD		SHIELD

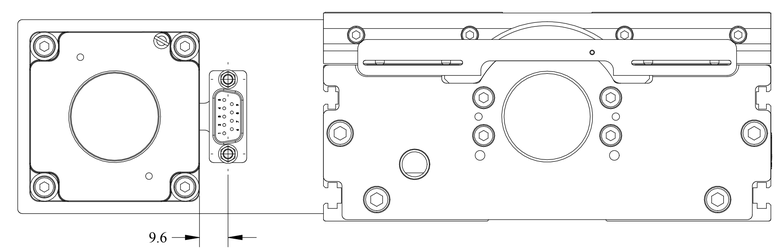
MOTOR PARAMETERS		
	T22T (Series)	T22V (Parallel)
Cont. Stall Torque	1.40 N-m [200 oz-in]	
Rated Cont. Current / Phase	0.90A	1.80A
Phase Inductance (±20%)	64mH	16mH
Weight	1.23 kg [2.70lb]	
Rotor Inertia	0.0408×10^{-3} kg-m^2 [.0056 oz-in-sec^2]	

T22 MOTOR - PARALELL LEFT/RIGHT MOUNT WITH CONNECTOR

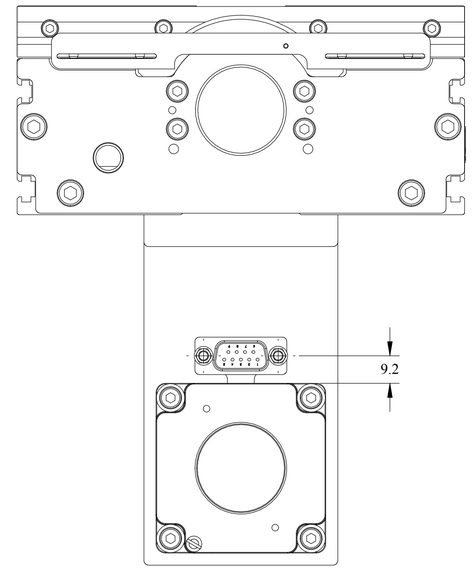


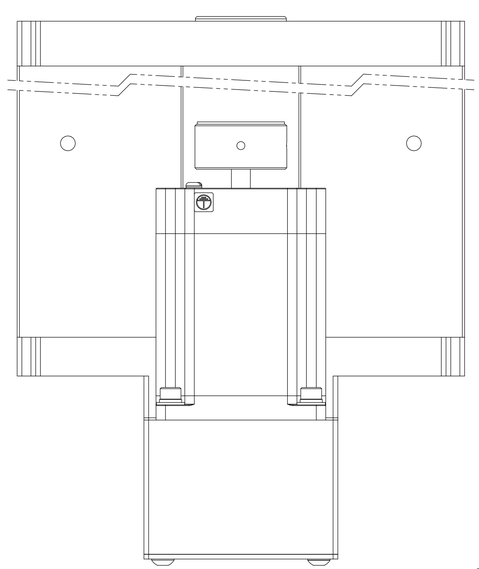
T22 MOTOR - PARALELL LEFT OPTION WITH CONNECTOR

T22 MOTOR - PARALELL RIGHT OPTION WITH CONNECTOR



T22 MOTOR - PARALELL UNDER MOUNT WITH CONNECTOR





THIRD ANGLE PROJECTION

NOTE:
1.) BASIC MOTOR DIMENSIONS AND CONNECTOR LOCATIONS SHOWN. REFER TO SHEET 2 AND 3 FOR MORE DETAILS
2.) 3 METER CABLE SUPPLIED WITH MATING CONNECTOR

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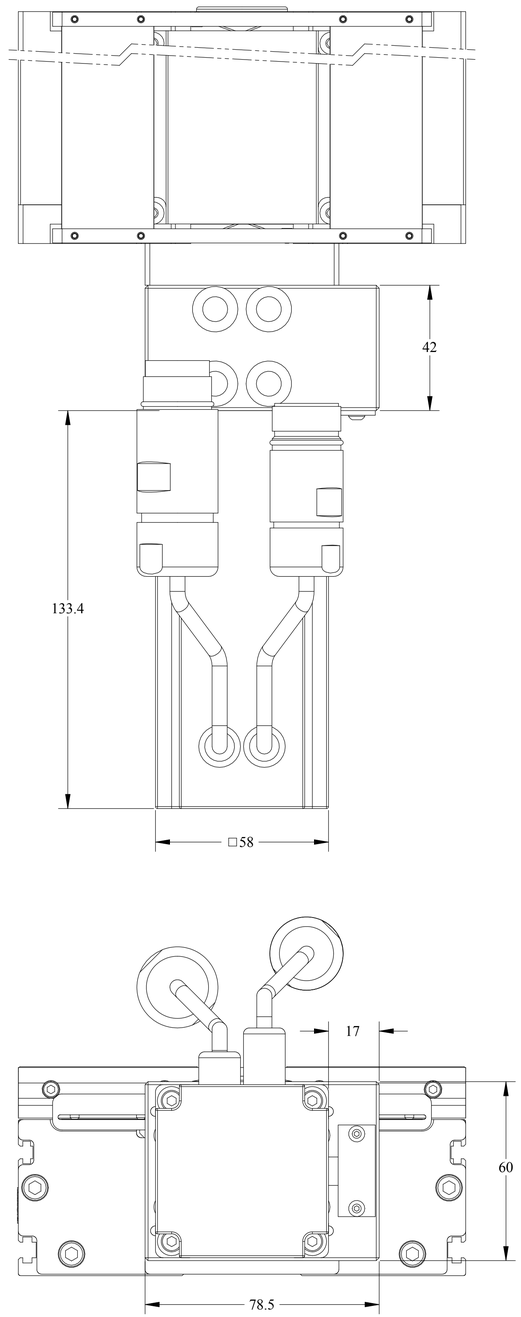
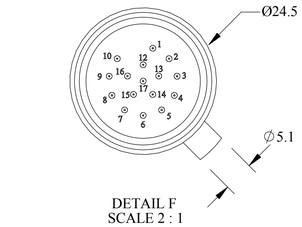
TOLERANCES UNLESS OTHERWISE SPECIFIED			DANAHER MOTION	
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION T22 MOTOR WITH CONNECTOR	
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2	SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:1 UNITS: MM	SHEET 9 OF 15

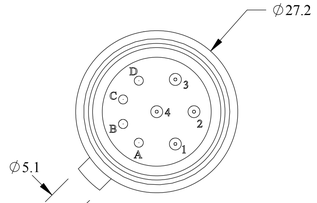
BK23 MOTOR - INLINE MOUNT WITH CONNECTORS





DETAIL F
SCALE 2 : 1

HALL / ENCODER WIRING (17-PIN CONNECTOR)	
SIGNAL	PIN
B	1
B-	2
A	3
A-	4
Z	5
Z-	6
GND	7
THERMAL SENSOR	8
THERMAL SENSOR	9
Vcc	10
N/C	11
N/C	12
N/C	13
N/C	14
U	15
V	16
W	17

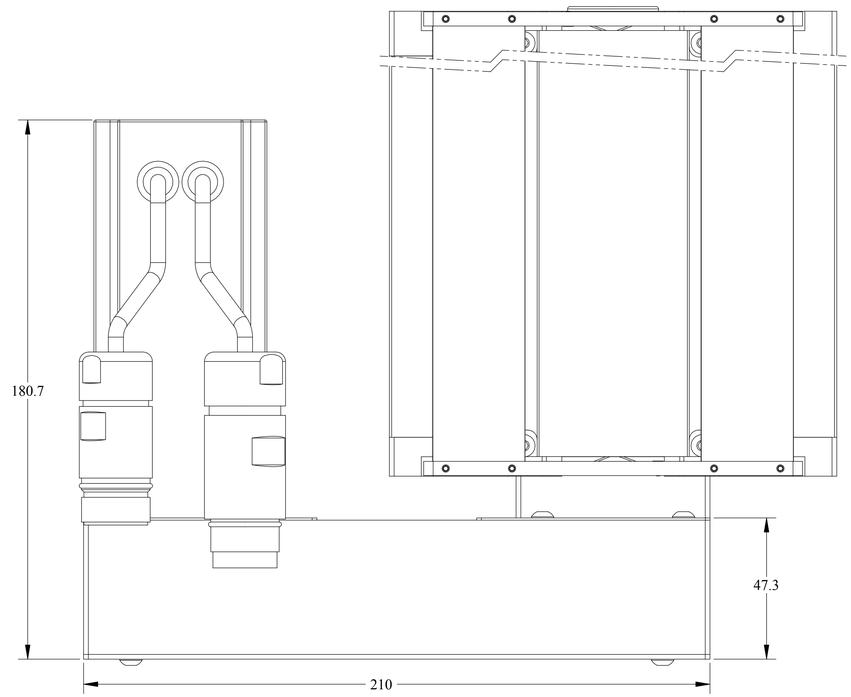


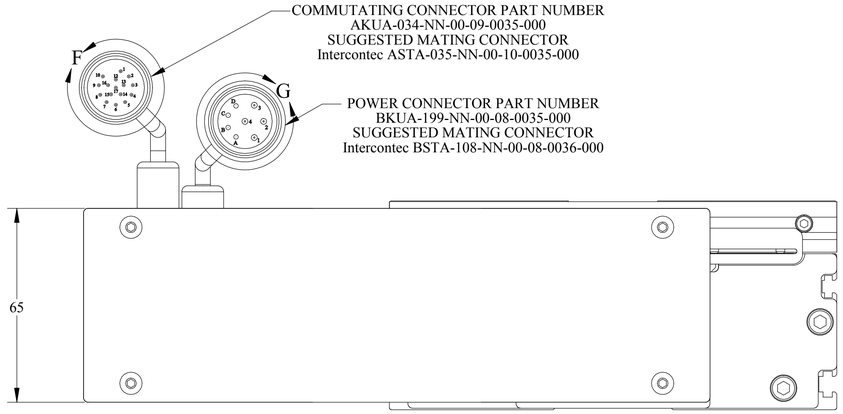
DETAIL G
SCALE 2 : 1

MOTOR PHASE WIRING (8-PIN CONNECTOR)	
SIGNAL	PIN
PHASE "C"	1
GROUND	2
PHASE "A"	3
PHASE "B"	4
BRAKE +	A
BRAKE -	B
N/C	C
N/C	D

MOTOR PARAMETERS		
Continuous Stall Torque	1.16 N-m	164.3 oz-in
Peak Torque	3.84 N-m	543.8 oz-in
Torque Sensitivity (±10%)	0.52 N-m/A_{RMS}	73.6 oz-in/A_{RMS}
Back EMF (±10%)	33.8 V_{RMS}/krpm	
Maximum Speed	8000 rpm	
Weight	1.38 kg	3.04 lb
Rotor Inertia	.22 kgcm^2	1.9x10^{-4} lb-in-sec^2

BK23 MOTOR - PARALLEL LEFT MOUNT WITH CONNECTORS





THIRD ANGLE PROJECTION

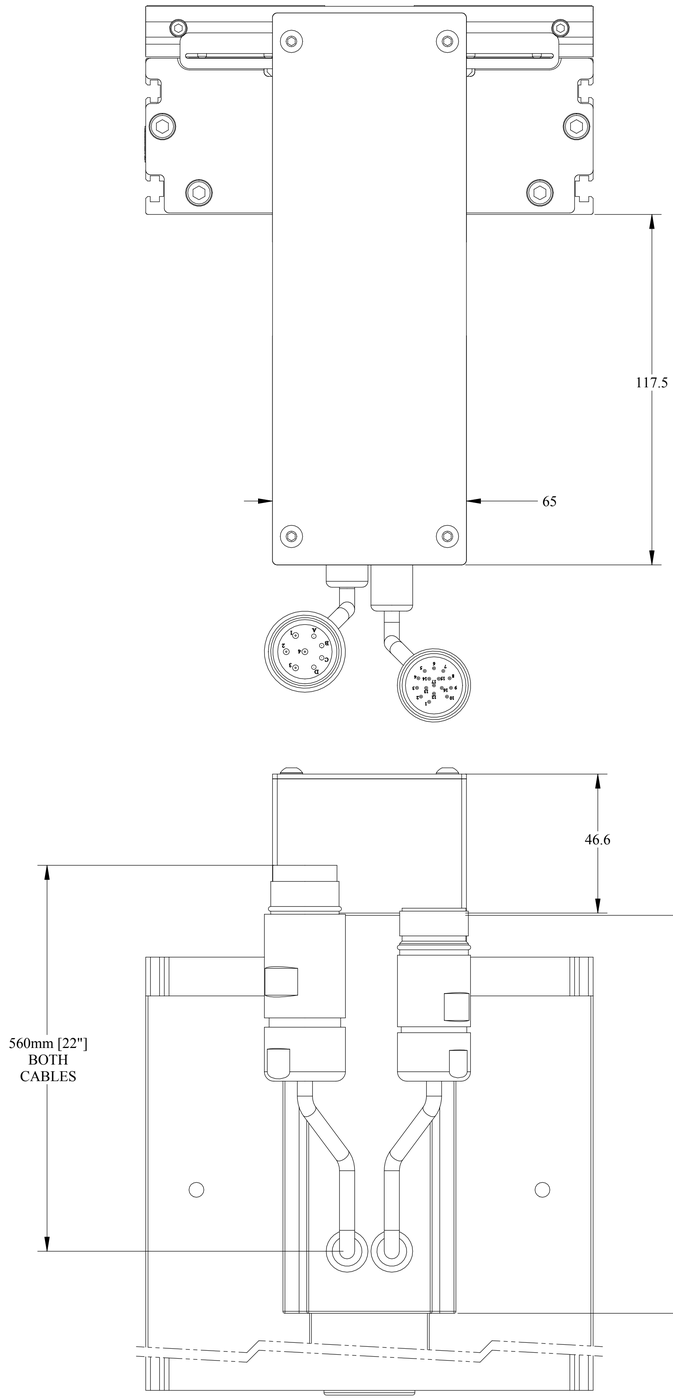
NOTE:
1. BASIC MOTOR DIMENSIONS AND CONNECTOR DIMENSIONS SHOWN REFER TO SHEET 2 AND 3 FOR MORE DETAILS.
2. A 8192 CPR ROTARY ENCODER IS INCORPORATED INTO THE SERVOMOTOR.
3. 1, 3, AND 9 METER CABLES ARE AVAILABLE FOR THIS MOTOR OPTION, AND MUST BE ORDERED SEPERATELY.

THIS DOCUMENT IS THE SOLE PROPERTY OF DANAHER MOTION AND IS NOT TO BE REPRODUCED OR USED WITHOUT WRITTEN CONSENT. COUNTERSINK TAPPED HOLES TO FULL THREAD DIA. x 90°.

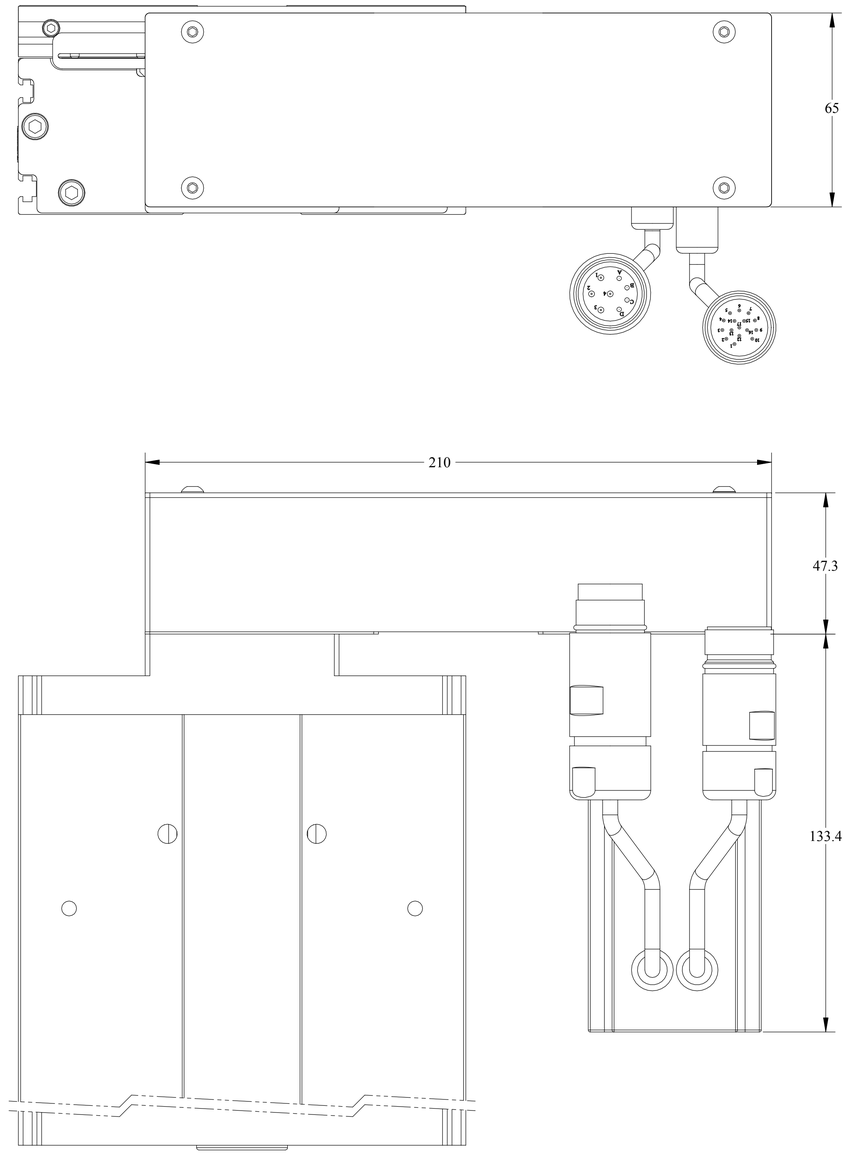
TOLERANCES UNLESS OTHERWISE SPECIFIED			DANAHER MOTION	
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION BK23 MOTOR, INLINE AND // LEFT	
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2	SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:1 UNITS: MM	SHEET 10 OF 15

ECO	SEE SHEET 1

BK23 MOTOR - PARALLEL UNDER WITH CONNECTORS



BK23 MOTOR - PARALLEL RIGHT WITH CONNECTORS



NOTE:
1. BASIC MOTOR DIMENSIONS AND CONNECTOR DIMENSIONS SHOWN ON PAGE 10.
   REFER TO SHEET 2 AND 3 FOR MORE DETAILS.
2. A 8192 CPR ROTARY ENCODER IS INCORPORATED INTO THE SERVOMOTOR.
3. 1, 3, AND 9 METER CABLES ARE AVAILABLE FOR THIS MOTOR OPTION,
   AND MUST BE ORDERED SEPERATELY.

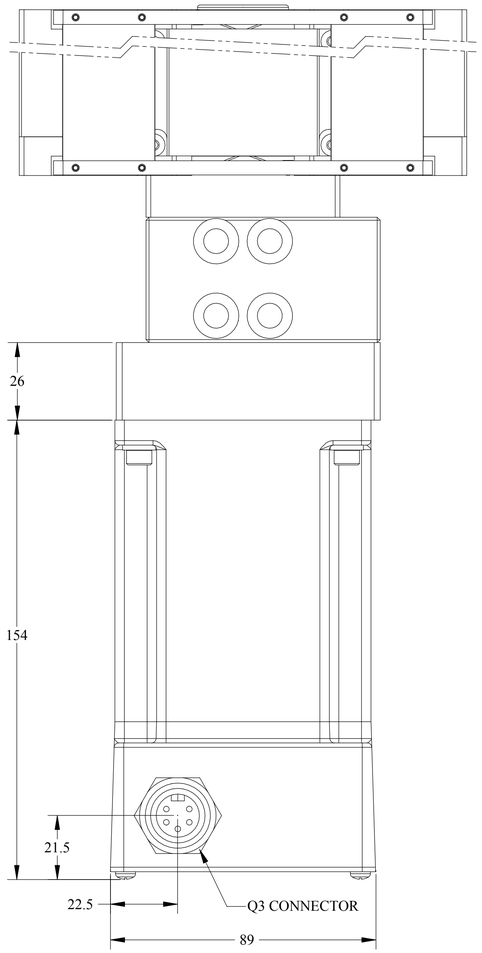
THIS DOCUMENT IS THE SOLE PROPERTY OF DANAHER MOTION
AND IS NOT TO BE REPRODUCED OR USED WITHOUT WRITTEN
CONSENT. COUNTERSINK TAPPED HOLES TO FULL THREAD DIA. x 90°.

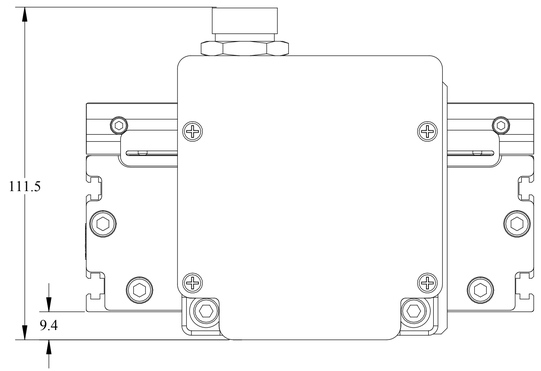
THIRD ANGLE PROJECTION

TOLERANCES UNLESS OTHERWISE SPECIFIED			DANAHER MOTION	
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION BK23 MOTOR, // UNDER, AND RIGHT	
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2	SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:1 | UNITS: MM	SHEET 11 OF 15

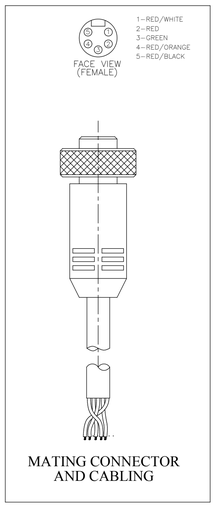
ECO	SEE SHEET 1

T32 MOTOR - INLINE MOUNT WITH CONNECTOR



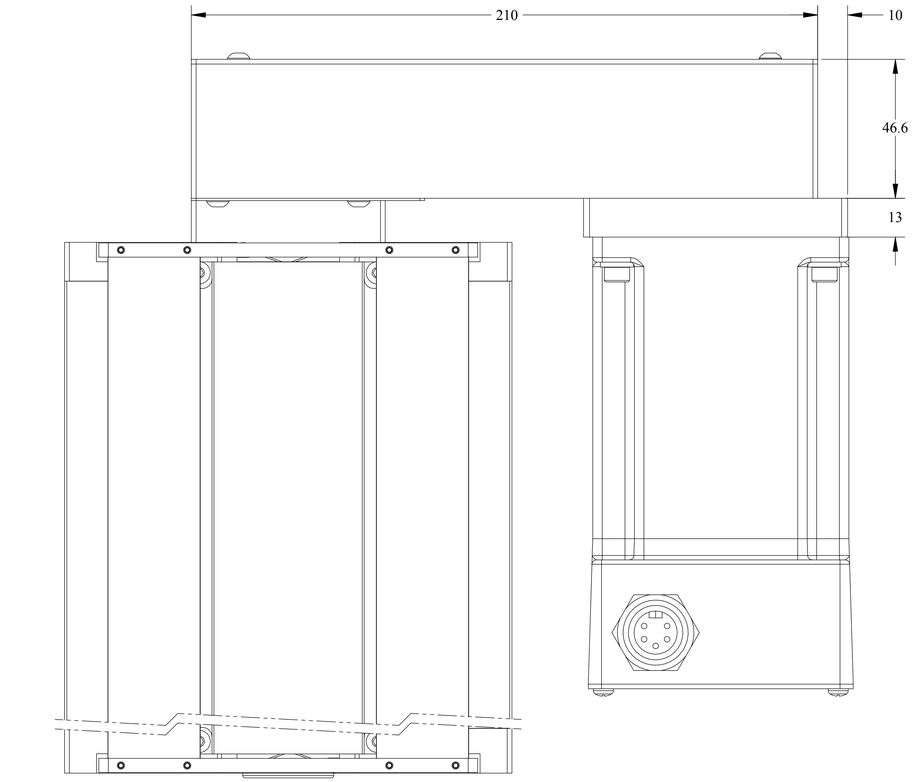


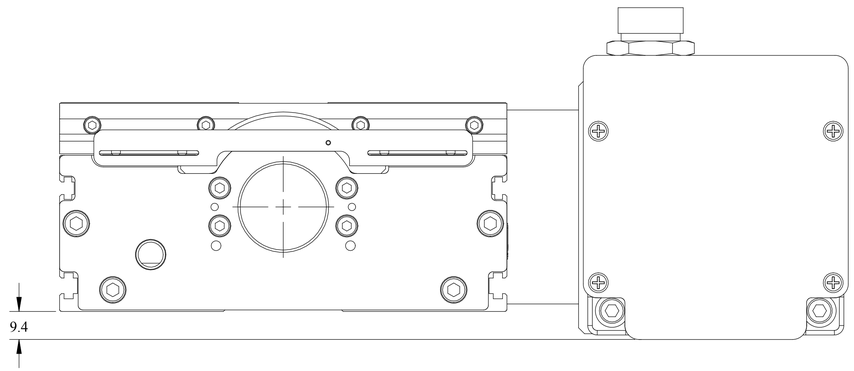
MOTOR PARAMETERS		
	T32T (Series)	T32V (Parallel)
Cont. Stall Torque	6.5 N-m [920 oz-in]	
Rated Cont. Current / Phase	1.60A	3.20A
Phase Inductance (±20%)	120mH	30mH
Weight	3.81 kg [8.4lb]	
Rotor Inertia	0.268x10^{-3} kg-m^2 [.038 oz-in-sec^2]	



NOTE:
1.) BASIC MOTOR DIMENSIONS AND CONNECTOR LOCATIONS SHOWN. REFER TO SHEETS 2 AND 3 FOR MORE DETAILS
2.) 3 METER CABLE SUPPLIED WITH MATING CONNECTOR, AS SHOWN. 8 AND 16 METER CABLES ARE ALSO AVAILABLE.

T32 MOTOR - PARALLEL LEFT MOUNT WITH CONNECTOR





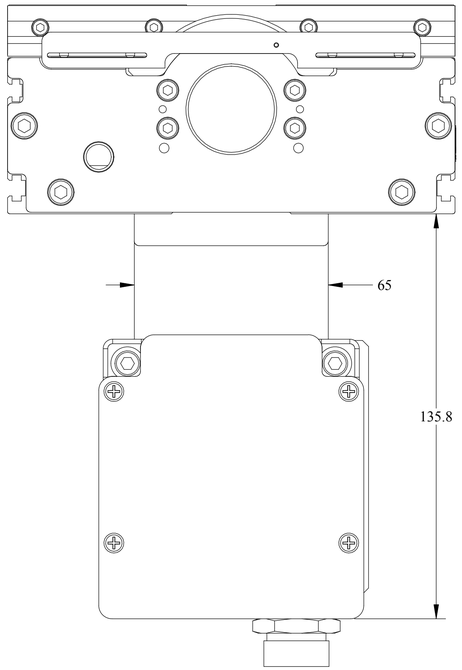
THIRD ANGLE PROJECTION

THIS DOCUMENT IS THE SOLE PROPERTY OF DANAHER MOTION AND IS NOT TO BE REPRODUCED OR USED WITHOUT WRITTEN CONSENT. COUNTERSINK TAPPED HOLES TO FULL THREAD DIA. x 90°.

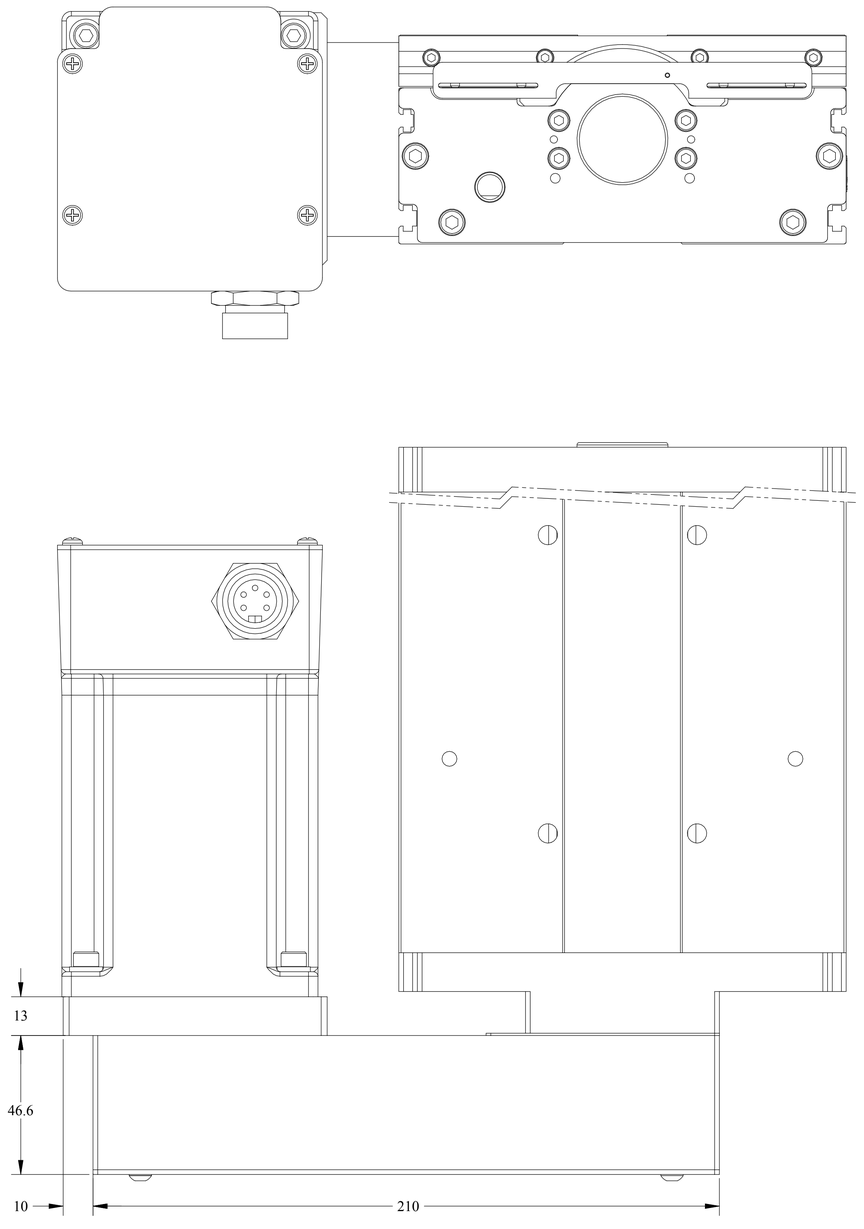
TOLERANCES UNLESS OTHERWISE SPECIFIED		DANAHER MOTION	
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION T32 MOTOR INLINE, // LEFT
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2 — SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:1 — UNITS: MM — SHEET 12 OF 15

ECO | SEE SHEET 1

T32 MOTOR - PARALLEL UNDER WITH CONNECTOR



T32 MOTOR - PARALLEL RIGHT WITH CONNECTOR



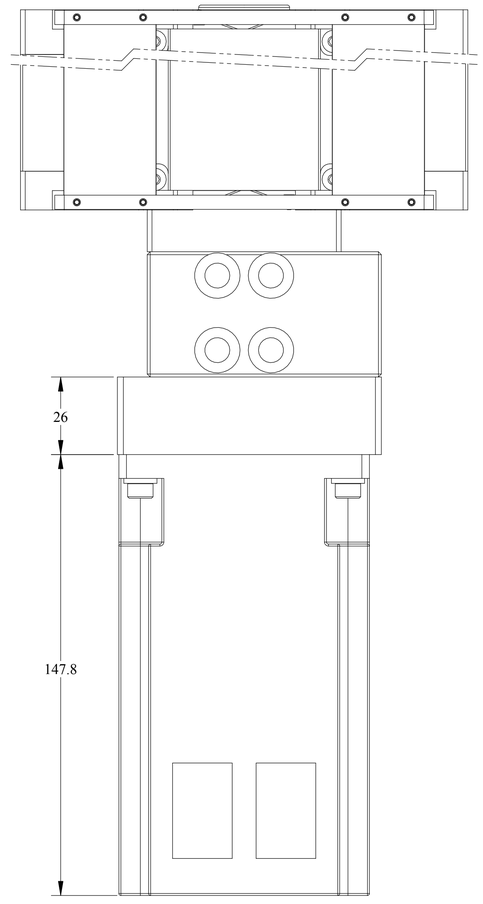
NOTE:
1.) BASIC MOTOR DIMENSIONS AND CONNECTOR LOCATIONS SHOWN.
REFER TO SHEETS 2 AND 3 FOR MORE DETAILS

THIS DOCUMENT IS THE SOLE PROPERTY OF DANAHER MOTION AND IS NOT TO BE REPRODUCED OR USED WITHOUT WRITTEN CONSENT. COUNTERSINK TAPPED HOLES TO FULL THREAD DIA. x 90°.

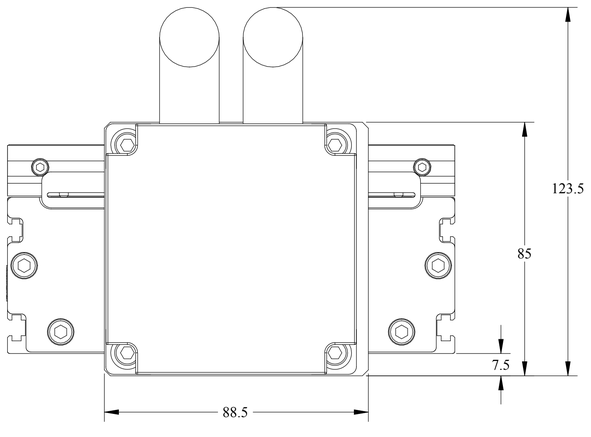
THIRD ANGLE PROJECTION

TOLERANCES UNLESS OTHERWISE SPECIFIED			DANAHER MOTION
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION T32 MOTOR, // UNDER, // RIGHT
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2 — SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:1 — UNITS: MM — SHEET 13 OF 15

BK32 MOTOR - INLINE WITH CONNECTORS

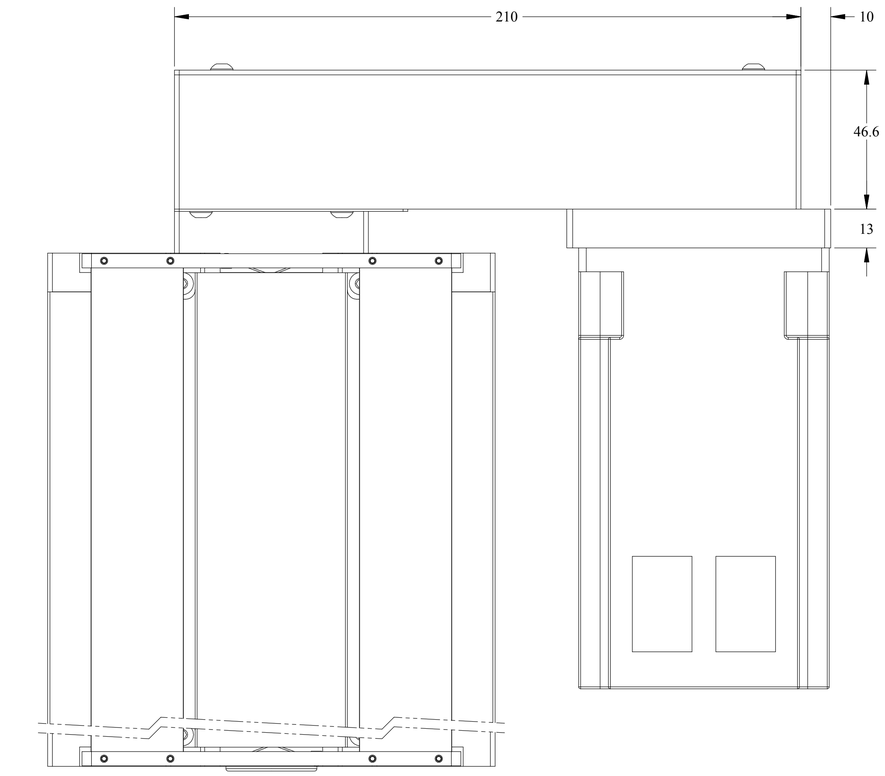


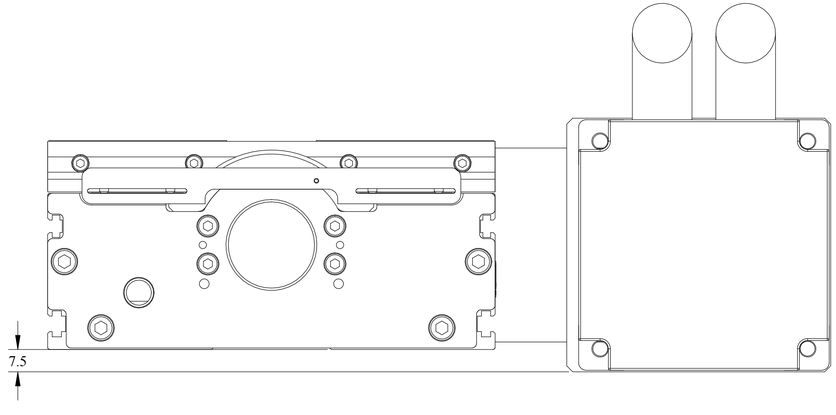
MOTOR PARAMETERS		
Continuous Stall Torque	3.53 N-m	499.89 oz-in
Peak Torque	11.5 N-m	1628.5 oz-in
Torque Sensitivity (±10%)	0.74 N-m/A_{RMS}	6.5 lb-in/A_{RMS}
Back EMF (±10%)	47.5 V_{RMS}/krpm	
Maximum Speed	6000 rpm	
Weight	3.39 kg	7.46 lb
Rotor Inertia	1.5 kgcm^2	.013 lb-in-sec^2



NOTE:
1.) BASIC MOTOR DIMENSIONS AND CONNECTOR LOCATIONS SHOWN.
REFER TO SHEET 10 FOR CONNECTOR SIZE AND PINNING.

BK32 MOTOR - PARALLEL LEFT WITH CONNECTORS





THIRD ANGLE PROJECTION

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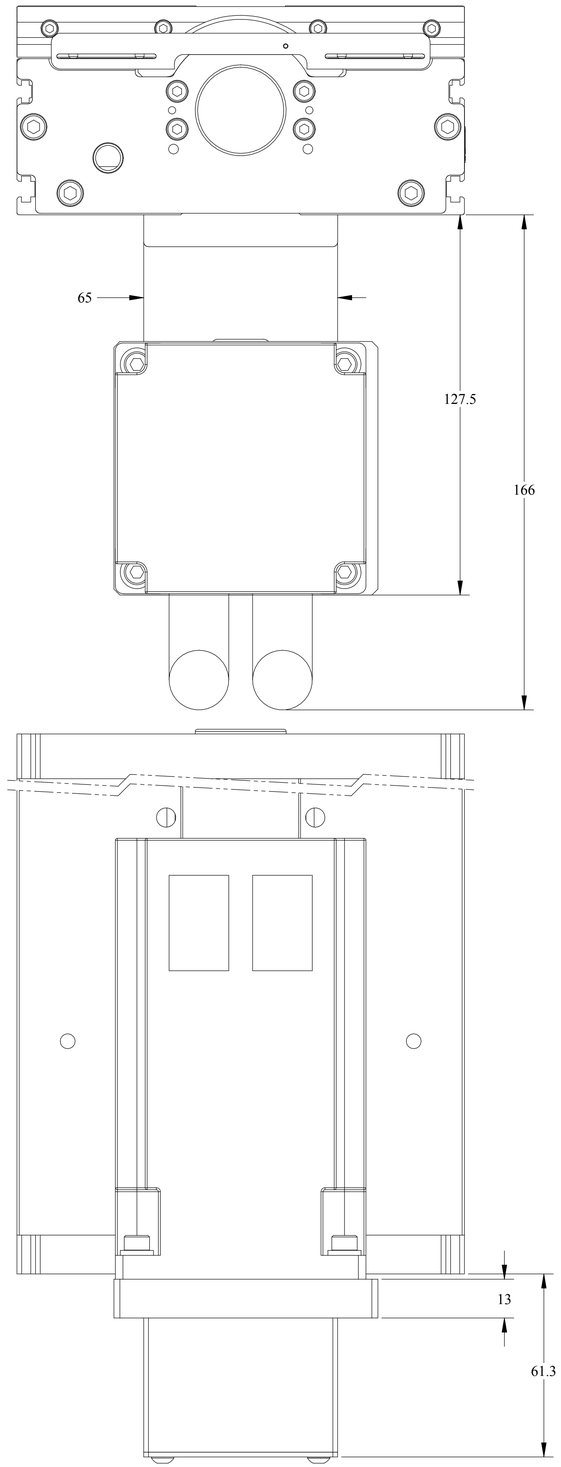
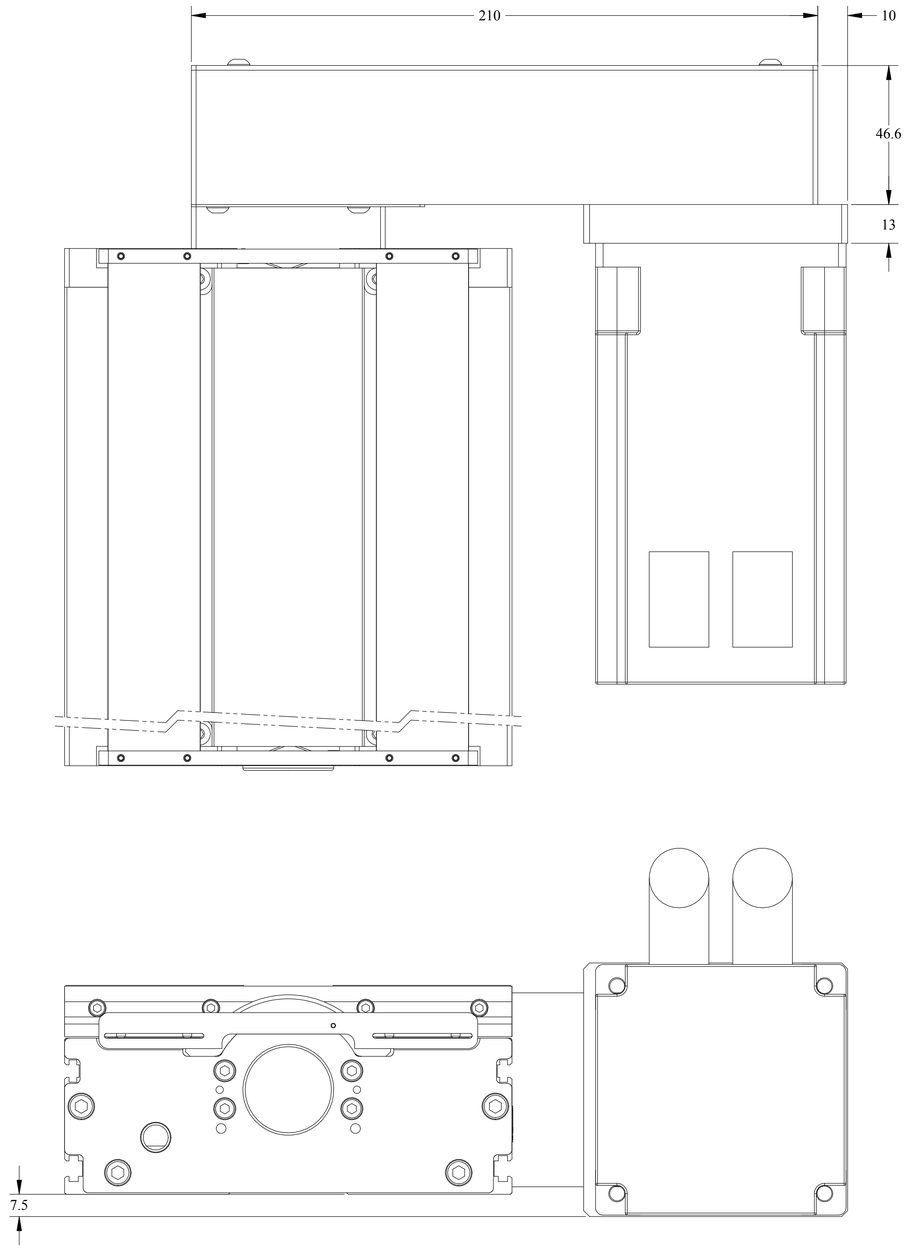
TOLERANCES UNLESS OTHERWISE SPECIFIED		DANAHER MOTION	
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION BK32 MOTOR, INLINE // LEFT
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2 — SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:1 — UNITS: MM — SHEET 14 OF 15

BK32 MOTOR - PARALLEL UNDER WITH CONNECTORS



BK32 MOTOR - PARALLEL LEFT WITH CONNECTORS



NOTE:
1.) BASIC MOTOR DIMENSIONS SHOWN ON PAGE 14. CONNECTOR PINNING AND DIMENSIONS SHOWN ON PAGE 10.

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THIRD ANGLE PROJECTION

TOLERANCES UNLESS OTHERWISE SPECIFIED		DANAHER MOTION	
X.XX ± .01 X.XXX ± .005 X.XXXX ± .001 FRAC. ± 1/64"	ANGULAR ± 1° ALL MACHINED SURFACES FINISH: 63 MAX CORNER BREAK: .005"-.020"	FINISH:	DS6 TABULATION BK32 MOTOR, // UNDER, // RIGHT
DRAWN BY: KDV	DATE: 12/18/03	MATERIAL:	Dwg. No. 41-0140Rev2 — SIZE D
ENGINEER: KDV	CHECKED:		SCALE: 1:1 — UNITS: MM — SHEET 15 OF 15