

# GSFL Planetary Gearboxes: Inline, Straight Cut, Square Flange

The below Example Teknic Part Number maps each part number section to an Identifier Number in the table to the left. These Identifier Numbers will be referenced later in this drawing where they drive gearbox dimensions.

Identifier Number	Definition	Possible Codes	Description/Size	Notes
1	Product Family ID	G	"Gearbox"	This character always stays the same
2	Gearbox Style/Family	SF	Straight Cut Planetary, Square output flange	
3	Angle of Gearbox	L	In-Line	
4	Output Body (mm)	040	40 mm	Only available for NEMA 17
		060	60 mm	Only available for NEMA 23
		080	80 mm	Only available for NEMA 34
		115	115 mm	Only available for NEMA 56 or NEMA 143
5	Gear Ratio	003, 004 ... 008, 010	X:1 ratio, 1-Stage	9:1 ratio (code 009) is a 2-Stage gearbox
		009, 012 ... 050, 064	X:1 ratio, 2-Stage	Any ratio over 10:1 (code 010) implies a 2-Stage gearbox
6	Input Mounting	N017	NEMA 17	
		N023	NEMA 23	
		N034	NEMA 34	
		N056	NEMA 56	
		N143	NEMA 143	
7	Input Bore Diameter	A, B, ... Y, Z	A: 5/8 inch    H: 1/2 inch B: 7/8 inch    L: 3/8 inch C: 5 mm        Q: 1/4 inch E: 14 mm       R: 6 mm	NOTE: see subsequent drawing sheets for available Input Bore Diameters for each Input Mounting size (NEMA 17, NEMA 23, etc.)
8	Wildcard	XX	Wildcard	For future use options

## Example Teknic Part Number

**GSFL-060-005-N023L-XX**

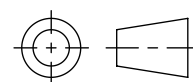
1 2 3 4 5 6 7 8

All dimensions are in mm [inch] unless otherwise noted.

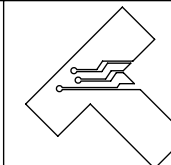
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DWG. NO./REV

D1262/B

TITLE: GSFL Planetary Gearbox, Inline, Straight Cut, Square Flange

1

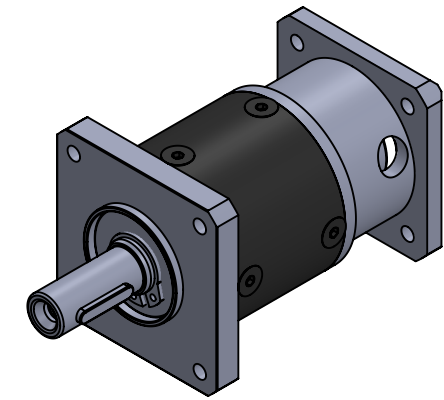
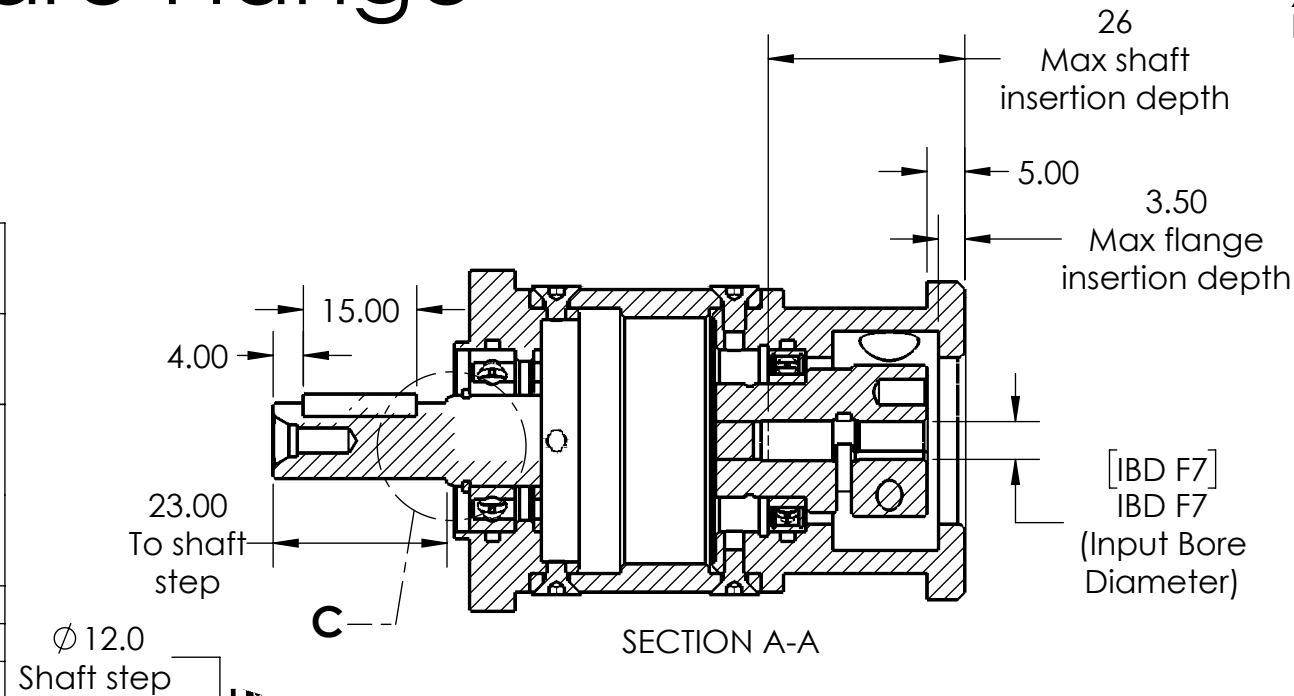
of 5 Sheets

# GSFL NEMA 17 Planetary Gearbox: Inline, Straight Cut, Square Flange

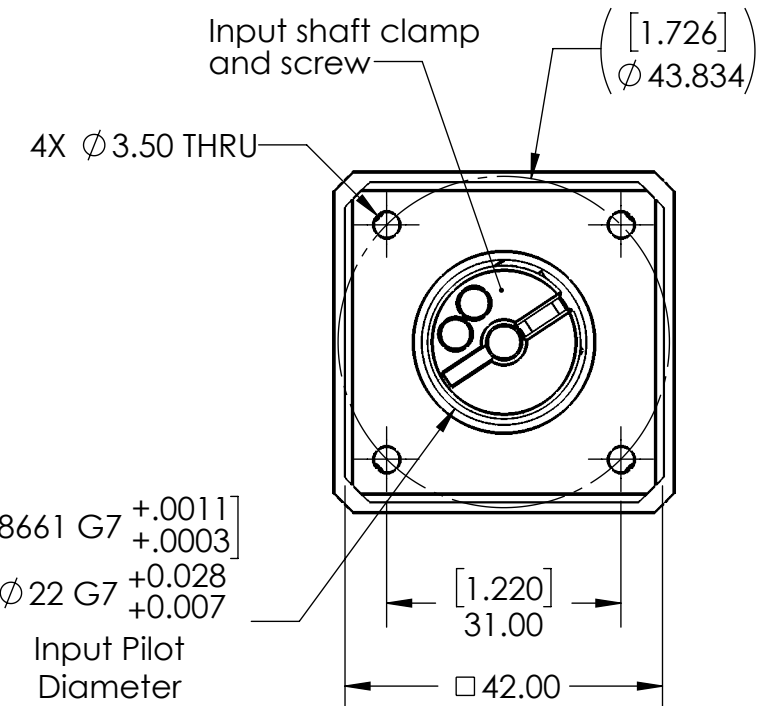
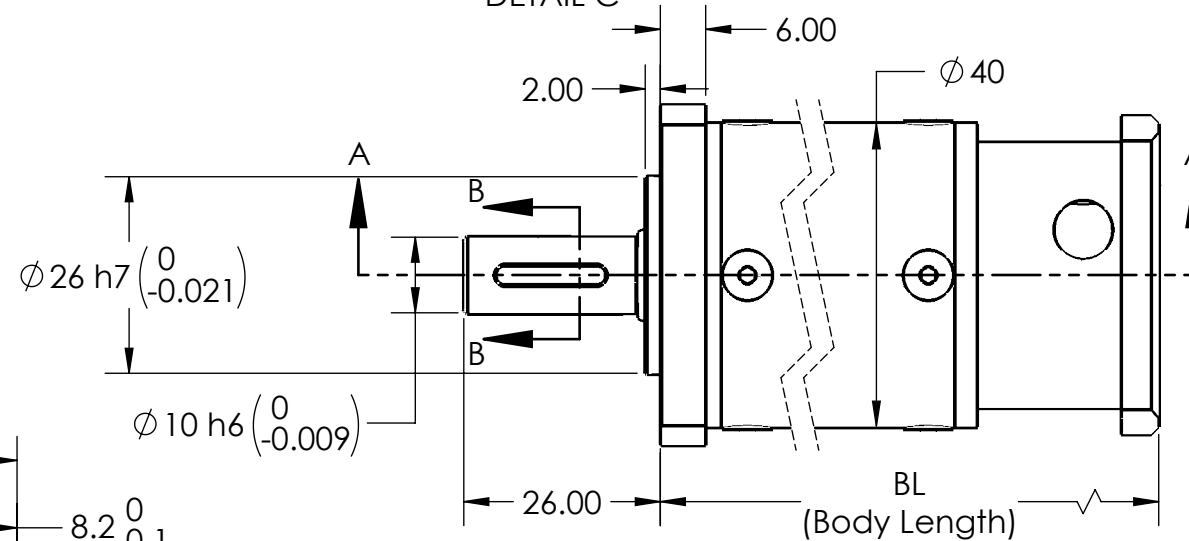
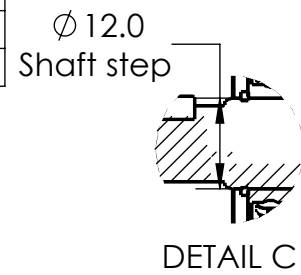
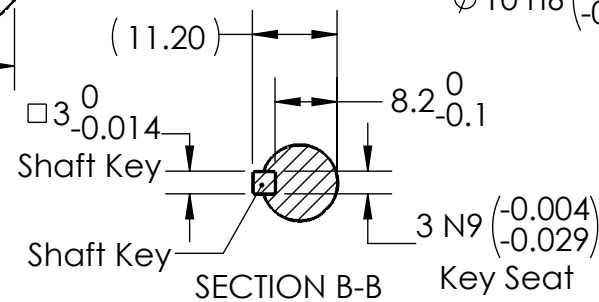
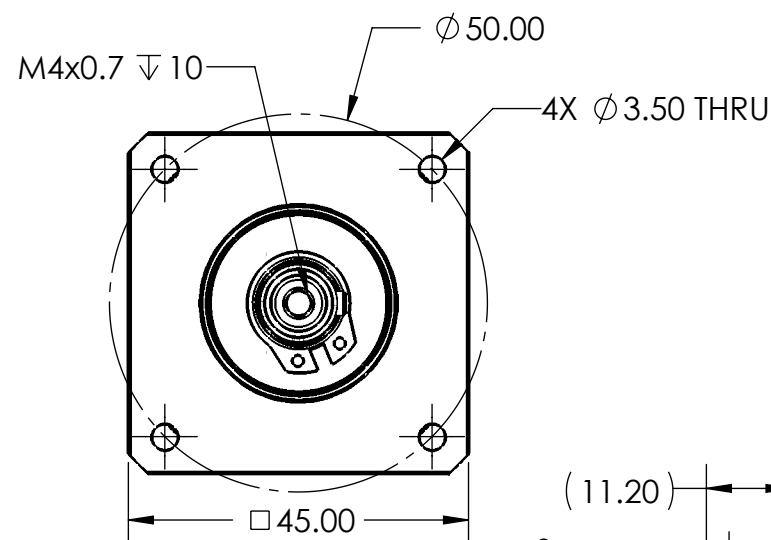
- Hardware included: Output shaft key, input clamp-style shaft coupling for motor shaft size shown in table
- All dimensions are in mm [inch] unless otherwise noted
- Sheet Scale 1:1

Unless otherwise specified, untoleranced dimensions default to:  
**X: ± .75mm [0.030]**  
**X.X: ± .5mm [0.020]**  
**X.XX: ± .25mm [0.010]**  
**X.XXX: ± .125mm [0.005]**  
 Lettered Fit tolerances are per ISO 286

Identifier Number	Dimension Name	Possible Codes	Dimension Value mm [in]	Notes
<b>5</b>	BL (Body Length) [Set by gear ratio e.g. 3:1 gear ratio is 003 code]	003, 004 ... 008, 010	65.50 [2.579]	1-Stage Gearbox
		009	80.00 [3.150]	2-Stage Gearbox
		012, 015 ... 050, 064		
<b>7</b>	IBD (Input Bore Diameter)	C	5.00 [0.197]	
		Q	6.35 [0.250]	
		R	6.00 [0.236]	



View Scale 2:3  
(1-Stage gearbox shown)

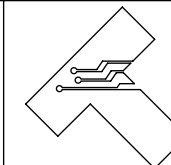


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TITLE: GSFL Planetary Gearbox, Inline, Straight Cut, Square Flange

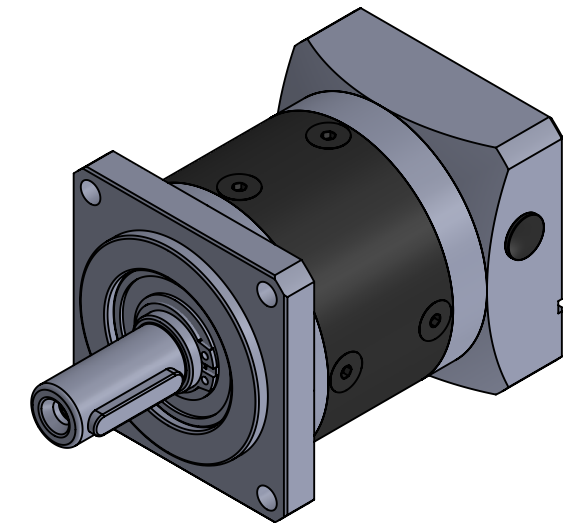
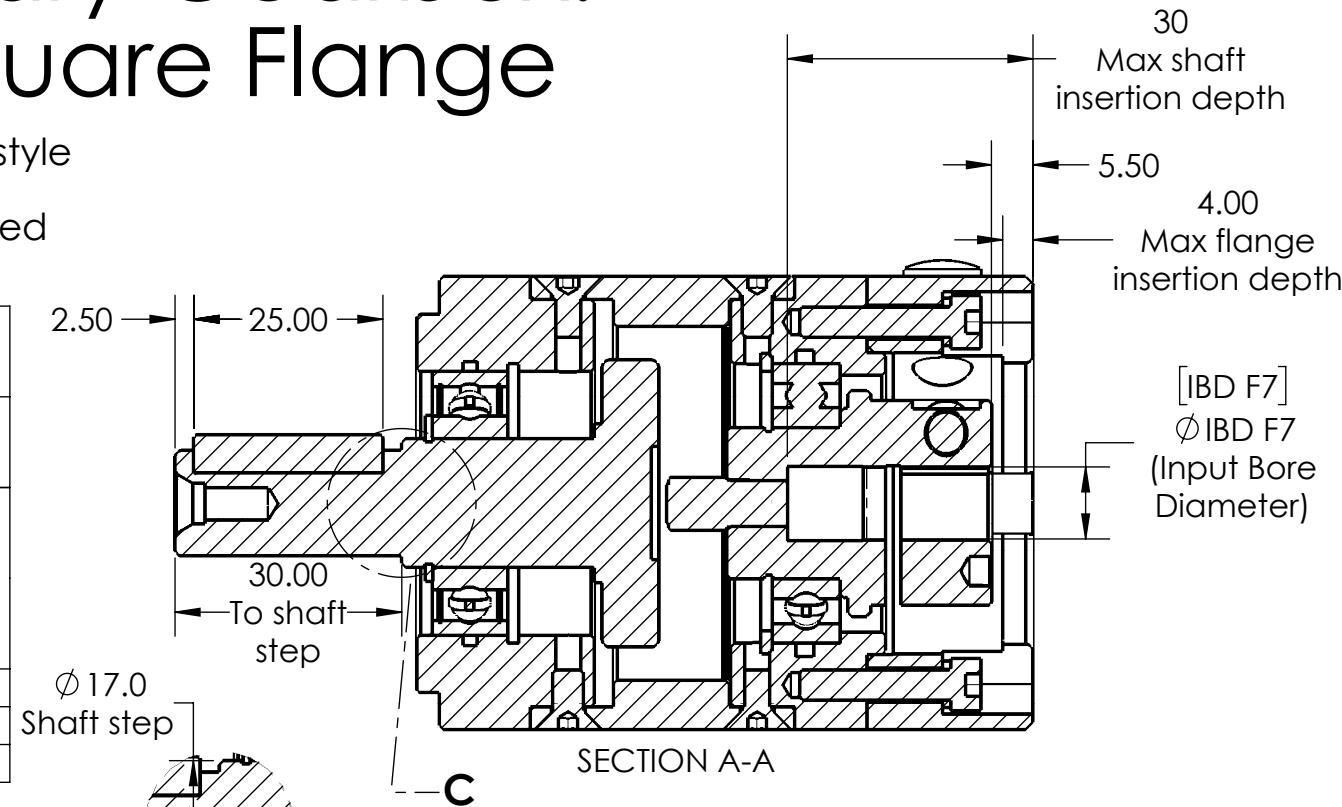
2 of 5 Sheets

# GSFL NEMA 23 Planetary Gearbox: Inline, Straight Cut, Square Flange

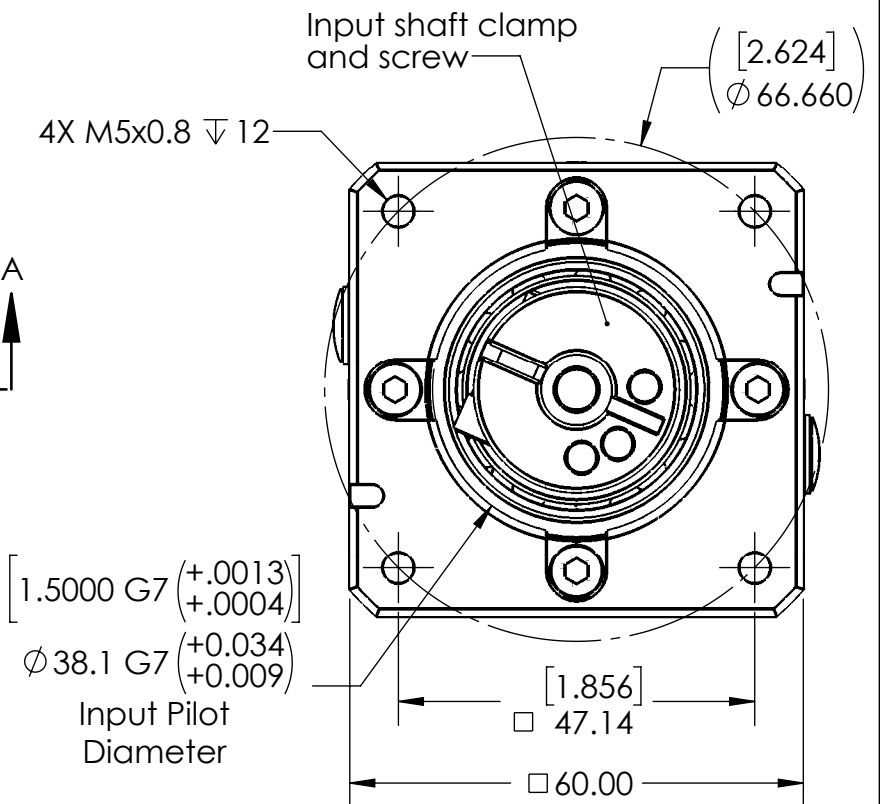
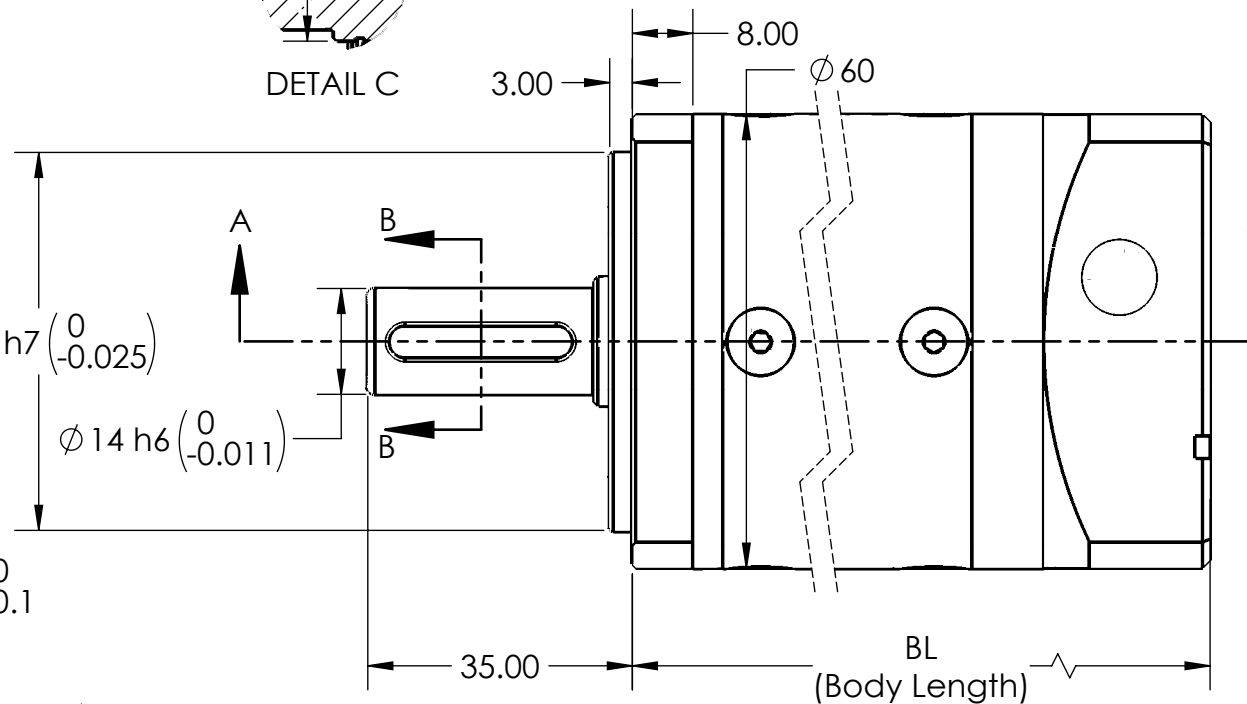
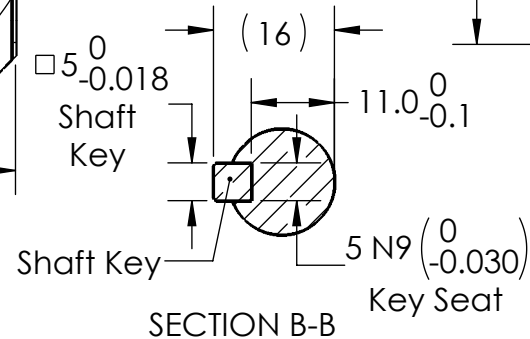
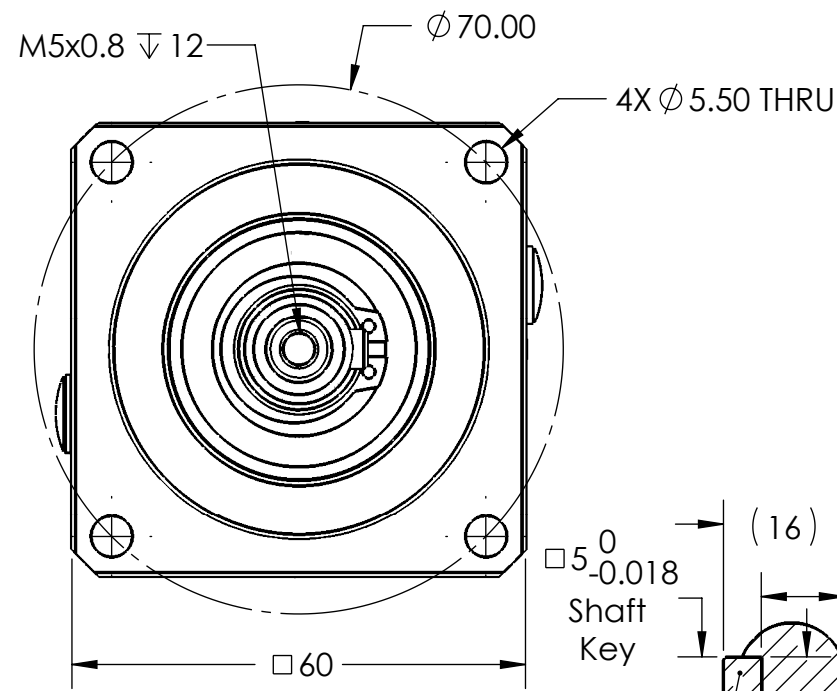
- Hardware included: Output shaft key, input clamp-style shaft coupling for motor shaft size shown in table
- All dimensions are in mm [inch] unless otherwise noted
- Sheet Scale 1:1

Unless otherwise specified, untoleranced dimensions default to:  
**X:** ± .75mm [0.030]  
**X.X:** ± .5mm [0.020]  
**X.XX:** ± .25mm [0.010]  
**X.XXX:** ± .125mm [0.005]  
 Lettered Fit tolerances are per ISO 286

Identifier Number	Dimension Name	Possible Codes	Dimension Value mm [in]	Notes
<b>5</b>	BL (Body Length)	003, 004 ... 008, 010	78.50 [3.091]	1-Stage Gearbox
		009	96.50 [3.799]	2-Stage Gearbox
	[Set by gear ratio e.g. 3:1 gear ratio is 003 code]	012, 015 ... 050, 064		
<b>7</b>	IBD (Input Bore Diameter)	E	14.00 [0.551]	
		L	9.53 [0.375]	
		Q	6.35 [0.250]	



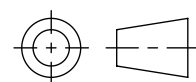
View Scale 2:3  
(1-Stage gearbox shown)



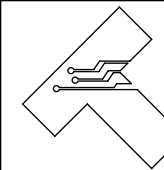
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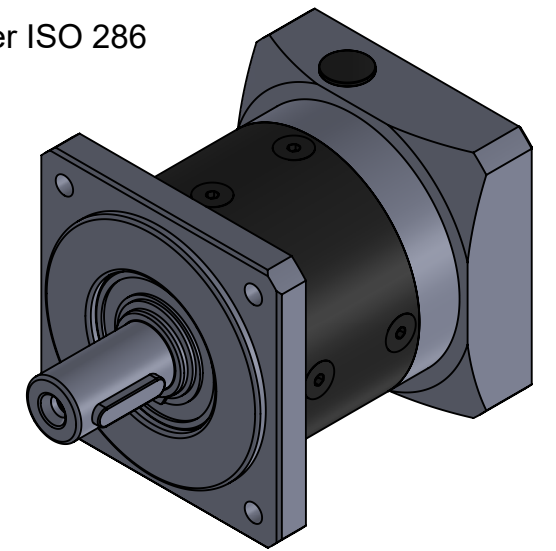
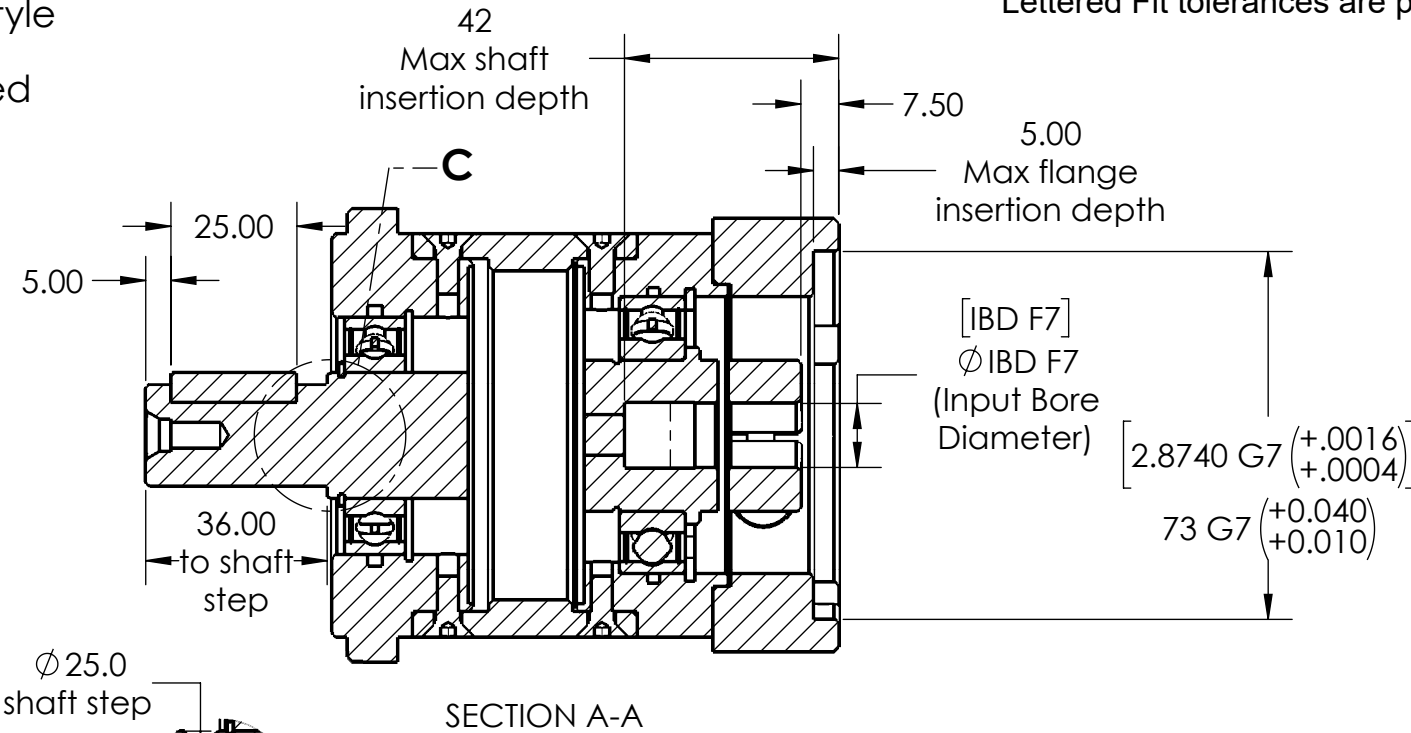
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# GSFL NEMA 34 Planetary Gearbox: Inline, Straight Cut, Square Flange

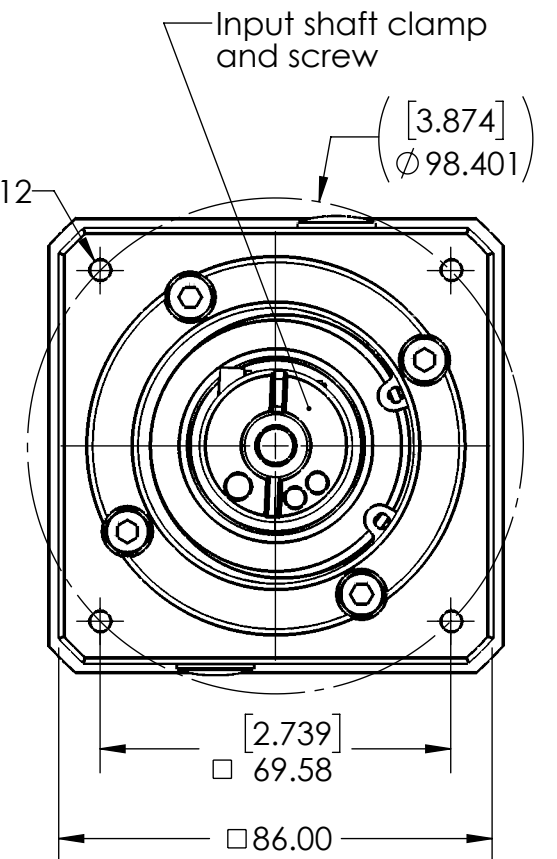
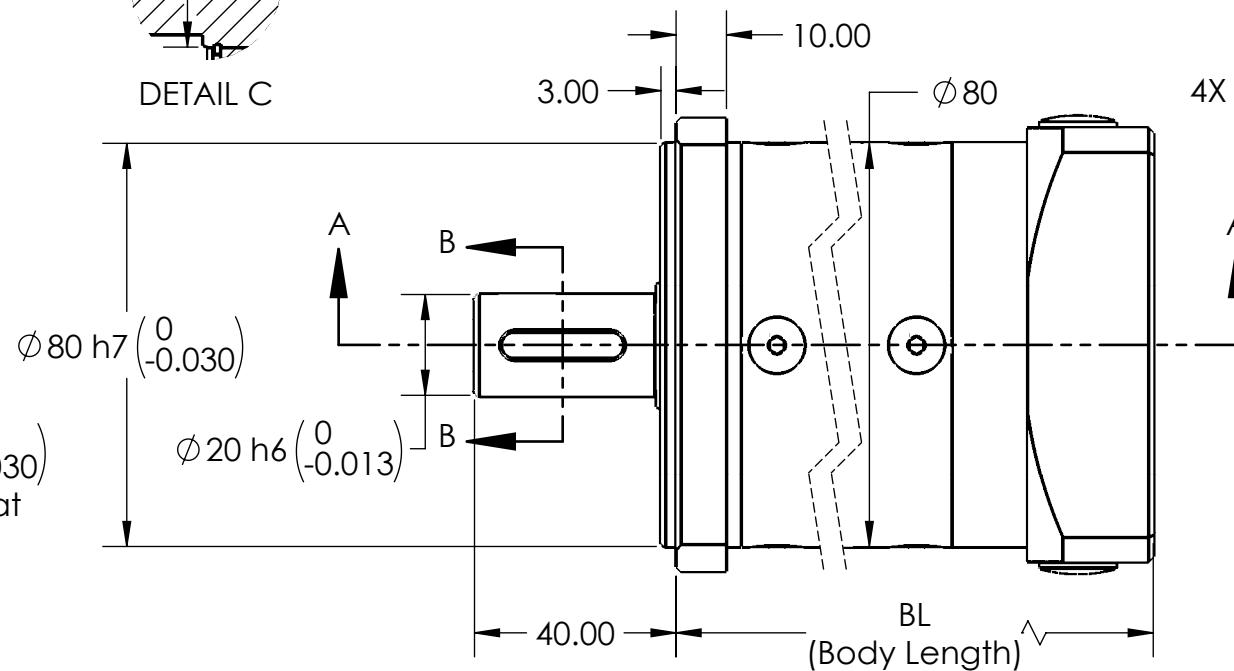
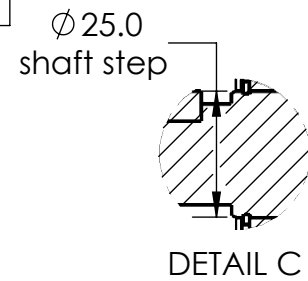
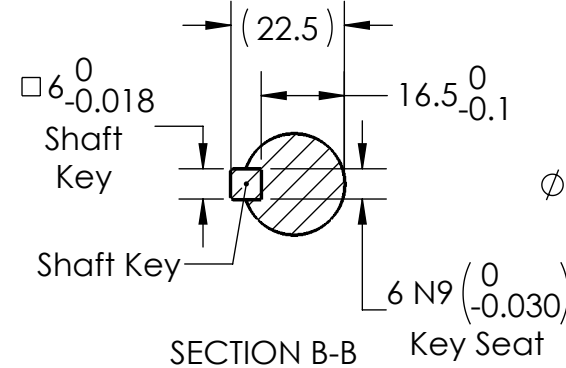
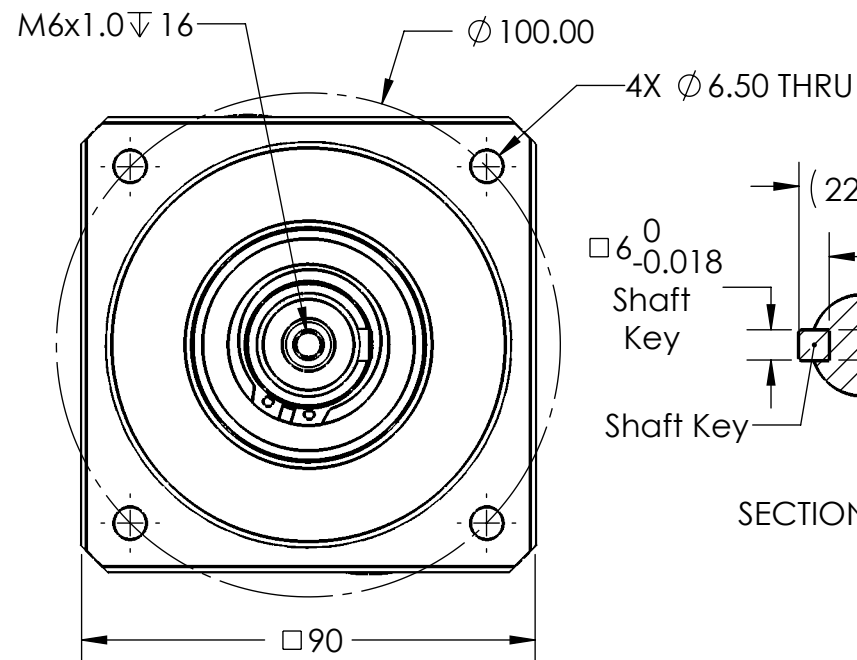
- Hardware included: Output shaft key, input clamp-style shaft coupling for motor shaft size shown in table
- All dimensions are in mm [inch] unless otherwise noted
- Sheet Scale 2:3

Unless otherwise specified, untoleranced dimensions default to:  
**X: ± .75mm [0.030]**  
**X.X: ± .5mm [0.020]**  
**X.XX: ± .25mm [0.010]**  
**X.XXX: ± .125mm [0.005]**  
 Lettered Fit tolerances are per ISO 286

Identifier Number	Dimension Name	Possible Codes	Dimension Value mm [in]	Notes
<b>5</b>	BL (Body Length)  [Set by gear ratio e.g. 3:1 gear ratio is 003 code]	003, 004 ... 008, 010	97.50 [3.839]	1-Stage Gearbox
		009	119.50 [4.705]	2-Stage Gearbox
		012, 015 ... 050, 064		
<b>7</b>	IBD (Input Bore Diameter)	E	14.00 [0.551]	
		H	12.70 [0.500]	
		L	9.53 [0.375]	



View Scale 1:2  
(1-Stage gearbox shown)

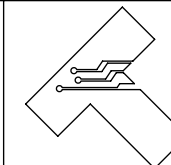


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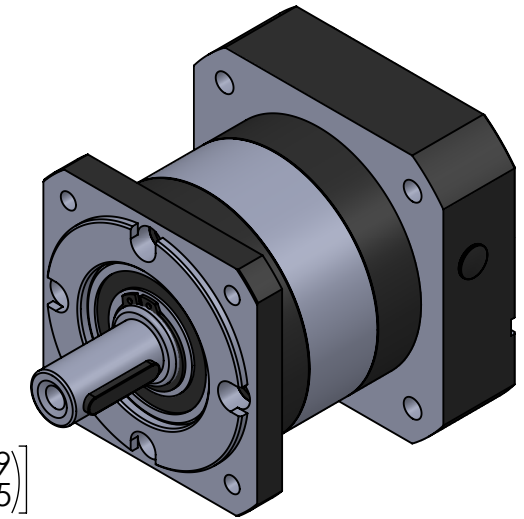
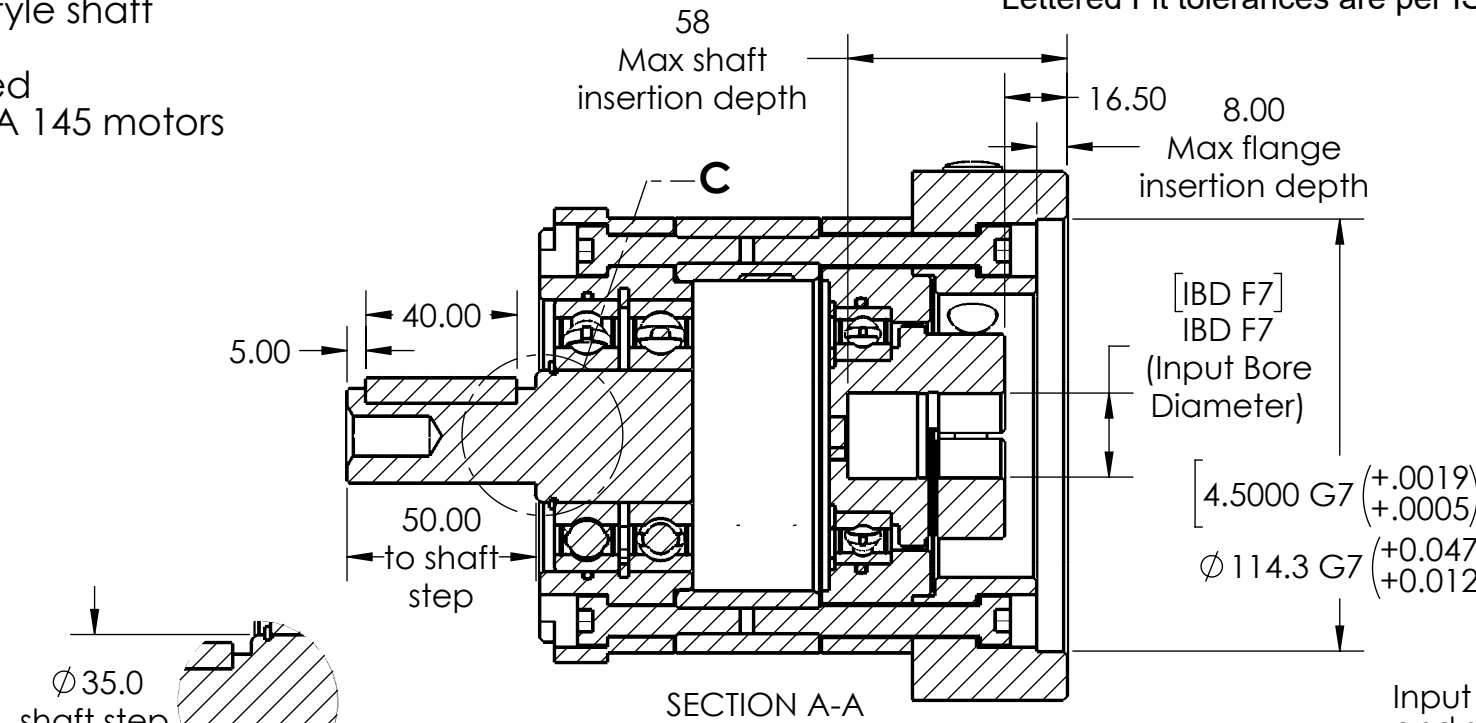
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# GSFL NEMA 56 & 143 Planetary Gearbox: Inline, Straight Cut, Square Flange

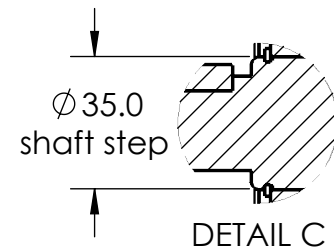
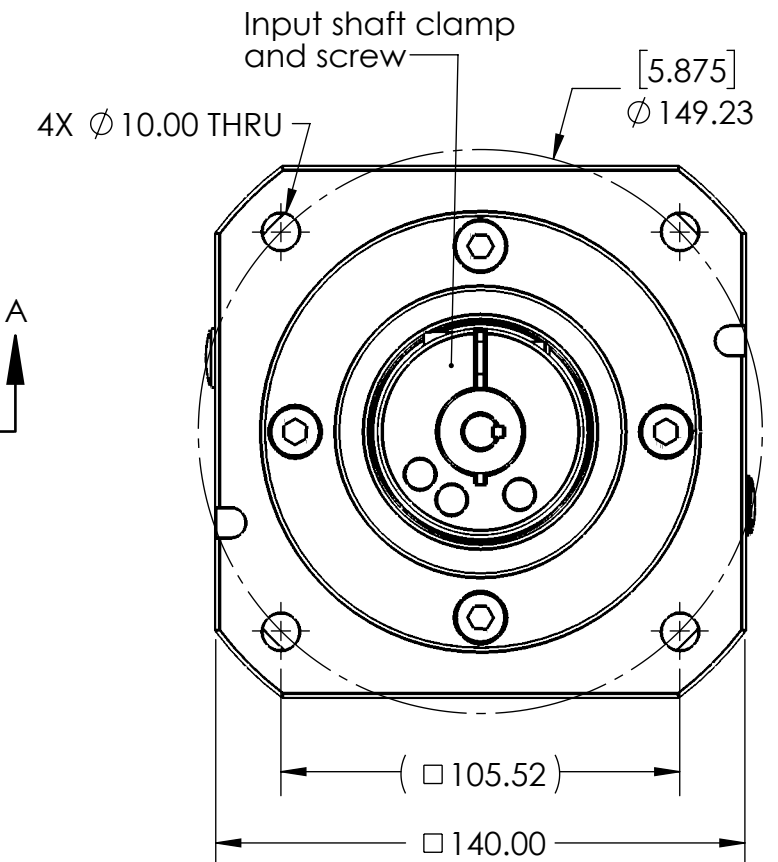
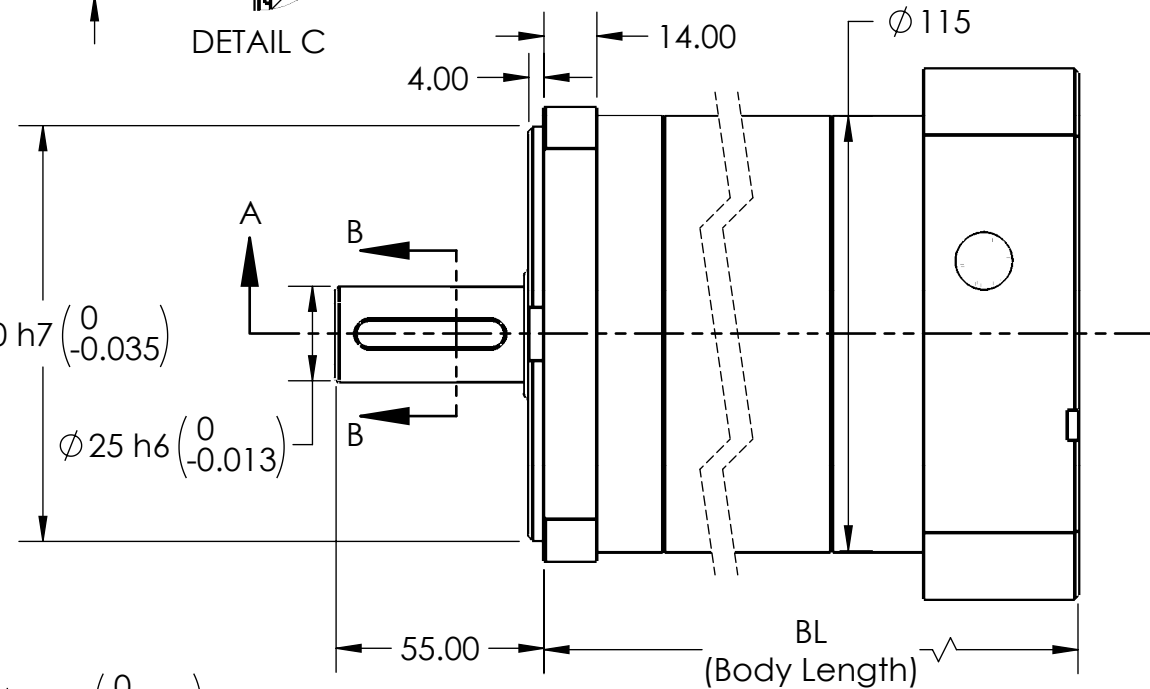
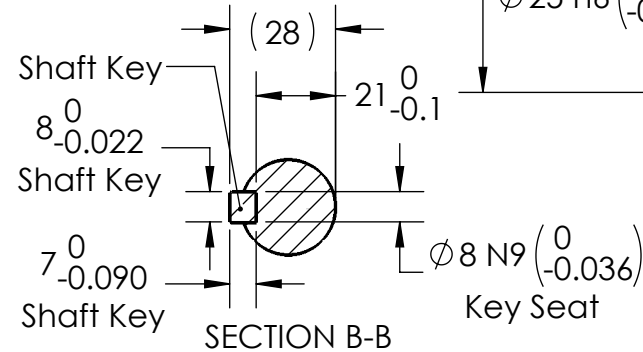
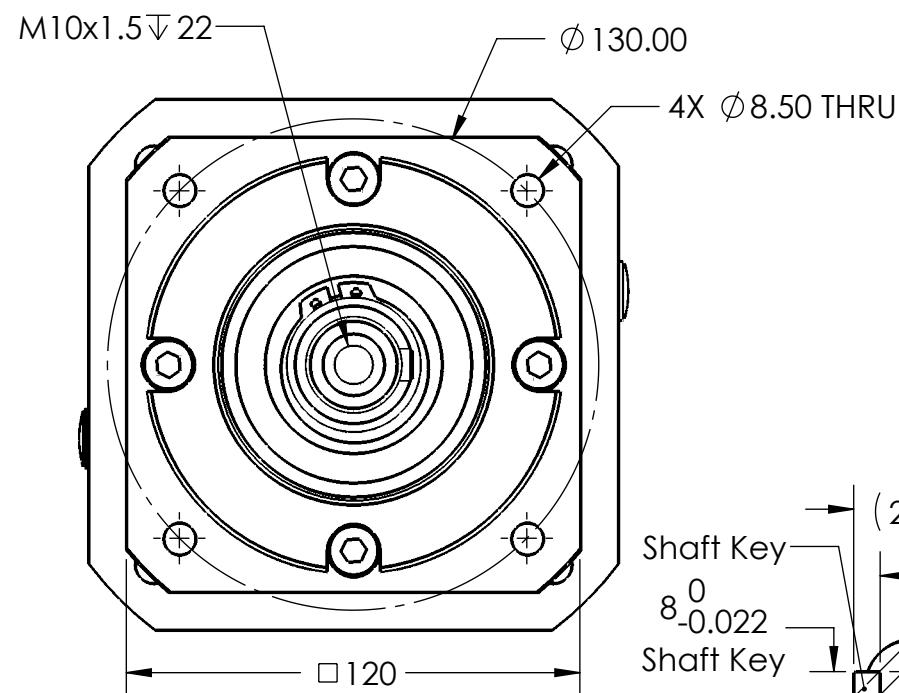
- Hardware included: Output shaft key, input clamp-style shaft coupling for motor shaft size shown in table
- All dimensions are in mm [inch] unless otherwise noted
- NEMA 143 gearboxes are also compatible with NEMA 145 motors
- Sheet Scale 1:2

Unless otherwise specified, untoleranced dimensions default to:  
**X: ± .75mm [0.030]**  
**X.X: ± .5mm [0.020]**  
**X.XX: ± .25mm [0.010]**  
**X.XXX: ± .125mm [0.005]**  
 Lettered Fit tolerances are per ISO 286

Identifier Number	Dimension Name	Possible Codes	Dimension Value mm [in]	Notes
<b>5</b>	BL (Body Length)	003, 004 ... 008, 010	135.50 [5.335]	1-Stage Gearbox
		009	166.00 [6.535]	2-Stage Gearbox
	012, 015 ... 050, 064			
<b>7</b>	IBD (Input Bore Diameter)	A	15.88 [0.625]	Only available for NEMA 56
		B	22.23 [0.875]	Only available for NEMA 143



View Scale 1:3  
(1-Stage gearbox shown)

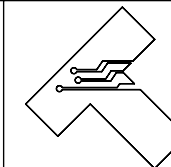


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