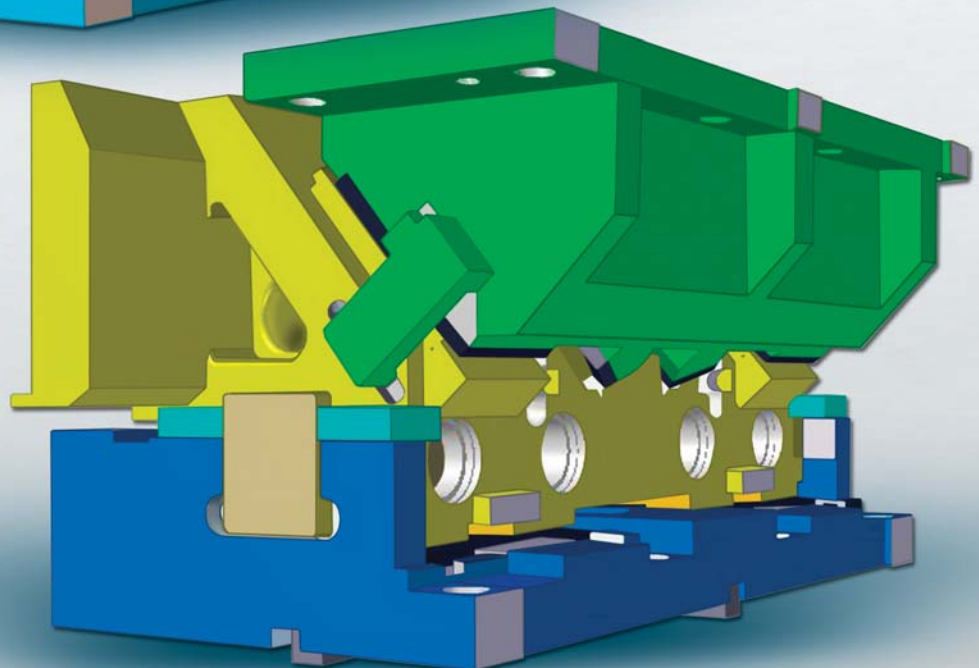
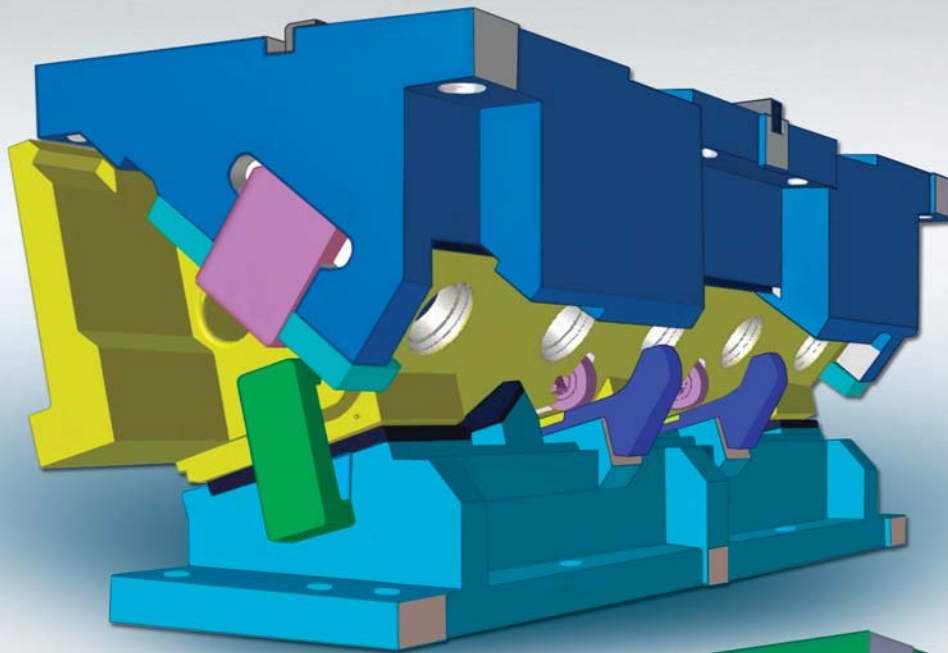


# IEM<sup>®</sup>

## AERIAL & DIE MOUNT WIDE CAMS CATALOG



# AERIAL & DIE MOUNT WIDE CAMS

## SERVICE WE DELIVER AND QUALITY YOU CAN DEPEND ON

**IEM** is a leading manufacturer of die and mold components supplied globally to the parts forming industry. Backed by years of tool and die experience, quality and innovation are some of the reasons why our name is respected throughout the world. We have taken the lead role in creating and bringing new products to customers and helping them find solutions that improve their operations. Based on the capabilities **IEM** offers, we can help you to meet the demands of quick deliveries, technical support, quality products and competitive prices. **IEM** and its' broad distribution channels and direct sales personnel will assist you in any way to make your product a better and more profitable one.

Whether standard or customized products, with our years of experience, customers can be sure the products they receive will meet their expectations for reliability and dependable performance. We understand the demanding schedules of die builders and production personnel and have developed efficient manufacturing processes to shorten product lead times as well as put inventory on our shelves so you can have it in your facility when you need it.

Included in our full line offering are both inch and metric size die components that are designed to die standards including ISO, NAAMS, JIS and many automotive and appliance manufacturers' standards. The complete product offering includes:

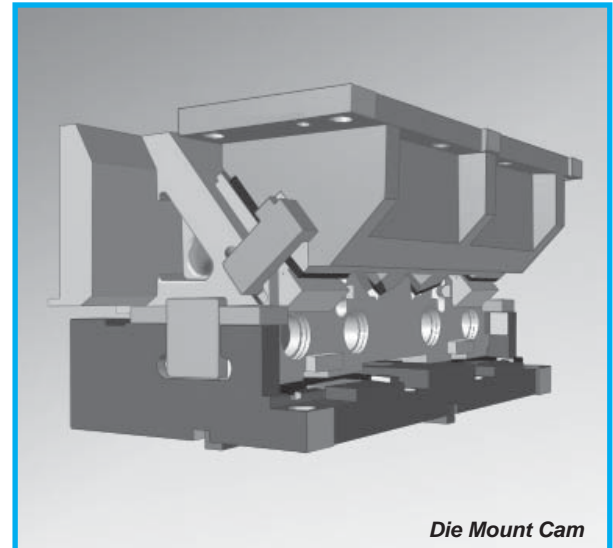
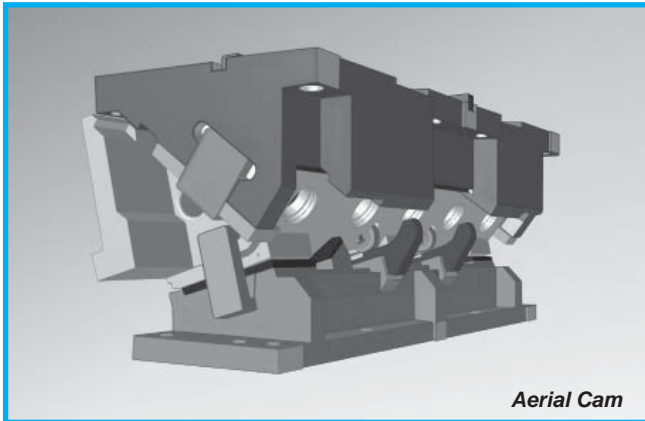
- Accu-Bend™ Rotary Benders
- Air Presses
- Cams
  - Aerial & Diemount Cams
  - Box & Bump Cams
  - Roller Cams
  - Wide Cams
- Die Accessories
- Guide Posts & Bushings
  - Plain & Ball Bearing Styles
  - Steel, Bronze, Bronze-Plated & Self-Lubricating Bushings
  - Lempoloy Bushings
  - Special Pins, Bushings & Retainers
- Hydraulics
  - Electronic Die Setters
  - Die Separators
  - Drill & Tap Equipment
  - Hydraulic Motors
- In-Die Tapping Units
- Mold Components
  - Bronze Plated & Self-Lubricated Bushings
  - Leader Pins
  - Bronze & Bronze Plated Wear Strips & Ways
- Punches, Buttons & Retainers
- Springs
  - DieMax L Inch Series Springs
  - DieMax XL Series ISO Springs
  - JIS Series Springs
  - Custom Heavy Duty Springs
  - Marsh Mellow Springs
  - Formathane Urethane
  - Kaller Gas Springs
  - Utility & Disc Springs
- Wear Products
  - Plates, Strips, Gibs & Blocks
  - Steel, bronze, Bronze-Plated and Self-Lubricating Materials

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# Product Information

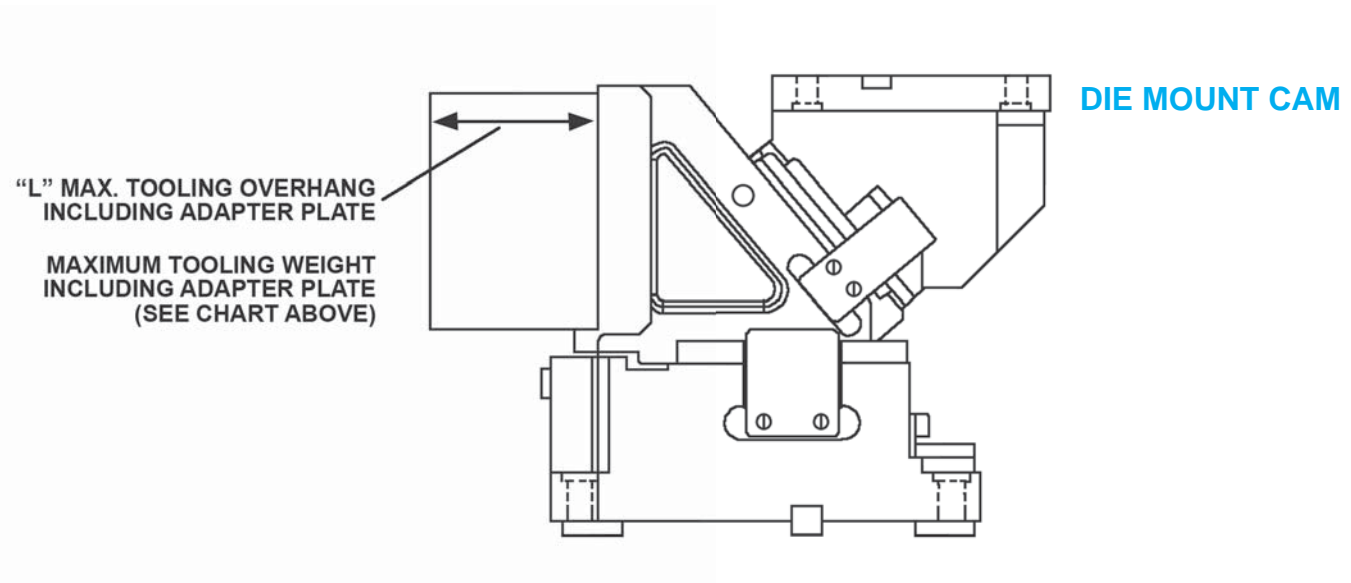
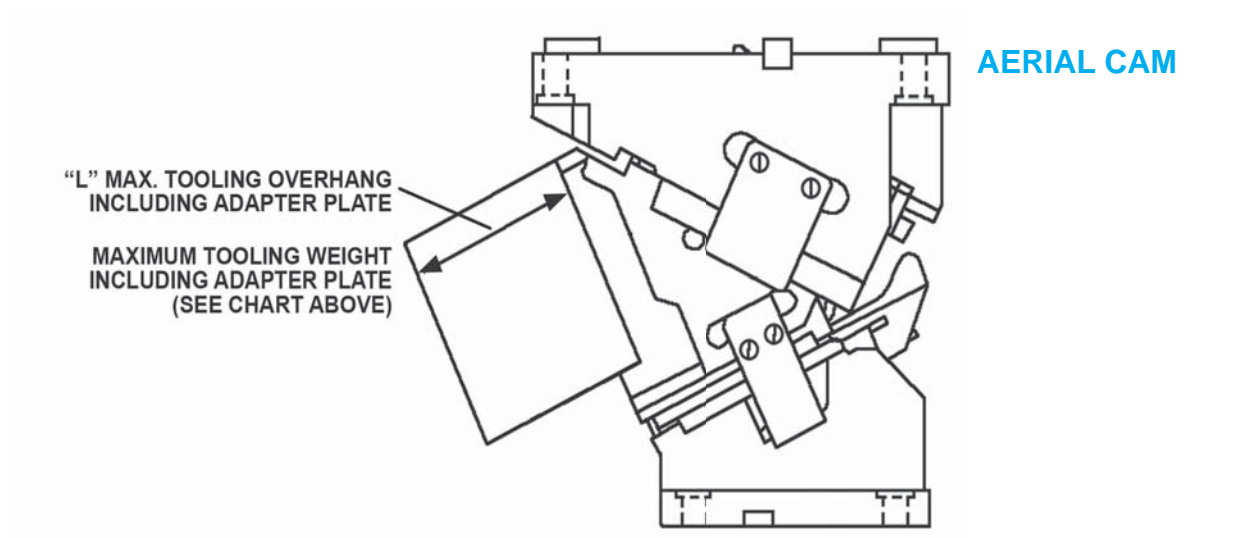


## Product Features

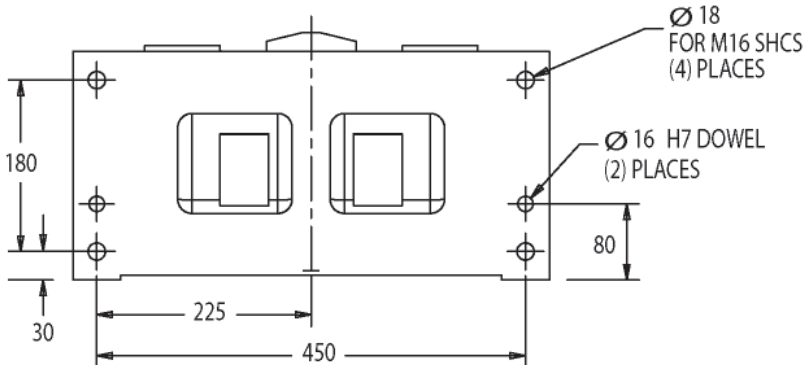
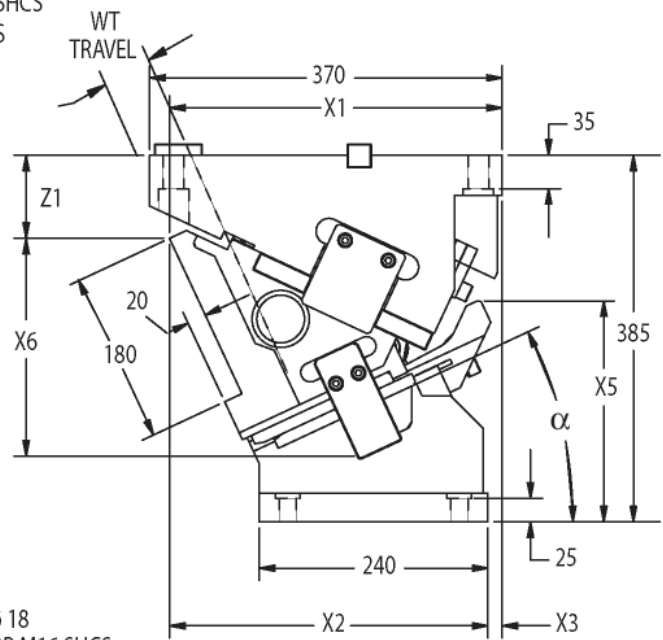
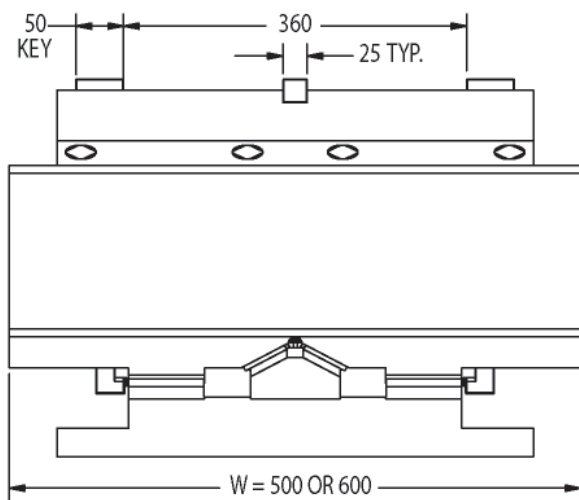
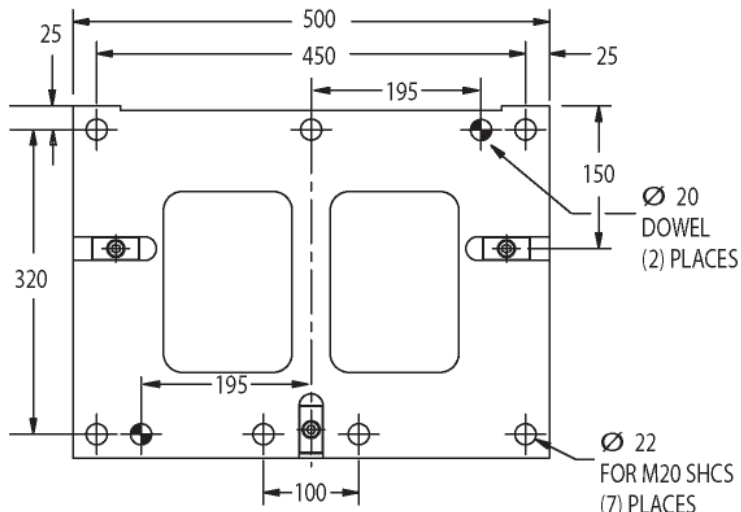
- ◆ Cam angles are in 5° increments – Aerial Cams from 0° to 60°; Die Mount Cams from 0° to 20°.
- ◆ The cams will be categorized by mounting face width, which determines the shut height and overall width. (See the chart on the following page.)
- ◆ All cam units are heavy duty high volume and completely hard metric.
- ◆ All wear surfaces will be double plated aluminum bronze with graphite plugs running against plain hardened steel.
- ◆ Wear plates are backed up in the direction of thrust.
- ◆ Wear plates conform to VDI specifications for 12mm thick plates.
- ◆ Aerial Cams are guided by drivers with “V” guides.
- ◆ Cams can be ordered with coil springs or nitrogen springs.

# Product Information

	MOUNTING SURFACE WIDTH	SHUT HEIGHT	MAXIMUM TOOLING WT. INCLUDING ADAPTER PLATE		TOOLING OVERHANG "L" MAX.	SPRING RETURN FORCE FINAL LOAD IN (N)		RATED OUTPUT	
			kg. MAX	LBS. MAX.		COIL (CS)	NITROGEN (NS)	kN	Tonf
AERIAL	500 / 600	385	150	330	200	10776	20700	372	37.9
	700 / 800	385	200	440	200	21552	20700	496	50.6
	900 / 1000	385	250	550	200	26940	31100	620	63
	1100 / 1200	385	250	550	200	26940	31100	930	94.8
DIE MOUNT	500 / 600	385	150	330	200	10776	20700	325.5	33.2
	700 / 800	385	200	440	200	21552	20700	434	44.3
	900 / 1000	385	250	550	200	26940	31100	542.5	55.3
	1100 / 1200	385	250	550	200	26940	31100	744	75.9



# Heavy Duty Wide Aerial Cam – 500–600 mm



Ask Customer Service for design templates on our website or CD.  
Picture not representative of all angles.

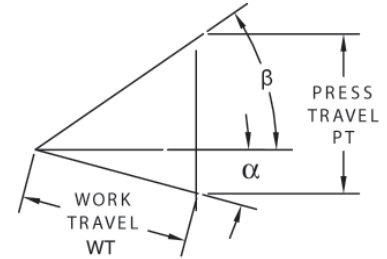
All dimensions are for reference only.  
No tolerance is stated or implied.

# Heavy Duty Wide Aerial Cam – 500–600 mm

MOUNTING FACE WIDTH 500 OR 600  
 MOUNTING FACE HEIGHT 180  
 OVERALL CAM WIDTH SEE PAGE 4  
 SHUT HEIGHT 385

SLIDE STROKE 60.0  
 WORK TRAVEL (WT) SEE CHART  
 PRESS STROKE (PT) SEE CHART

FASTENER SCHEDULE DOWELS SCREWS  
 DRIVER 2-Ø16 4-M16  
 BODY 2-Ø20 7-M20





CAM DIAGRAM

## CAM WIDTH 500 = W

PART NUMBER		kg	WT	PT	NOTE: FOR REST OF DIMENSIONS SEE CHART BELOW
WAC0500-00	0	299.6	38.6	46.0	
WAC0500-05	5	290.6	42.6	46.1	
WAC0500-10	10	281.9	46.7	46.7	
WAC0500-15	15	275.6	50.9	47.6	
WAC0500-20	20	272.4	55.3	48.9	
WAC0500-25	25	271.5	60.0	50.7	
WAC0500-30	30	277.4	65.1	53.1	
WAC0500-35	35	279.2	70.8	56.1	
WAC0500-40	40	280.6	77.1	60.0	
WAC0500-45	45	280.6	84.5	65.0	
WAC0500-50	50	286.0	93.3	71.0	
WAC0500-55	55	300.1	101.1	98.4	
WAC0500-60	60	291.9	118.2	112.8	

### ORDERING EXAMPLE:

WAC0500-10 xx  
 COIL SPRING (CS)   
 NITROGEN SPRING (NS) 

SPRING RETURN FORCE FINAL LOAD (N)		# OF SPRINGS WITH CAM	OPTIONAL SPRING POCKETS	RETURN FORCE PER SPRING
TYPE	FINAL LOAD (N)			FINAL (N)
COIL	10776	2	NONE	5388
NITROGEN	20700	2	NONE	10380

### NOTES

- ◆ Nitrogen cylinders do not have a pre-load. Listed nitrogen ratings are at the end of their stroke.
- ◆ Exceeding the maximum tooling envelope will reduce cam performance and shorten the life of the cam.

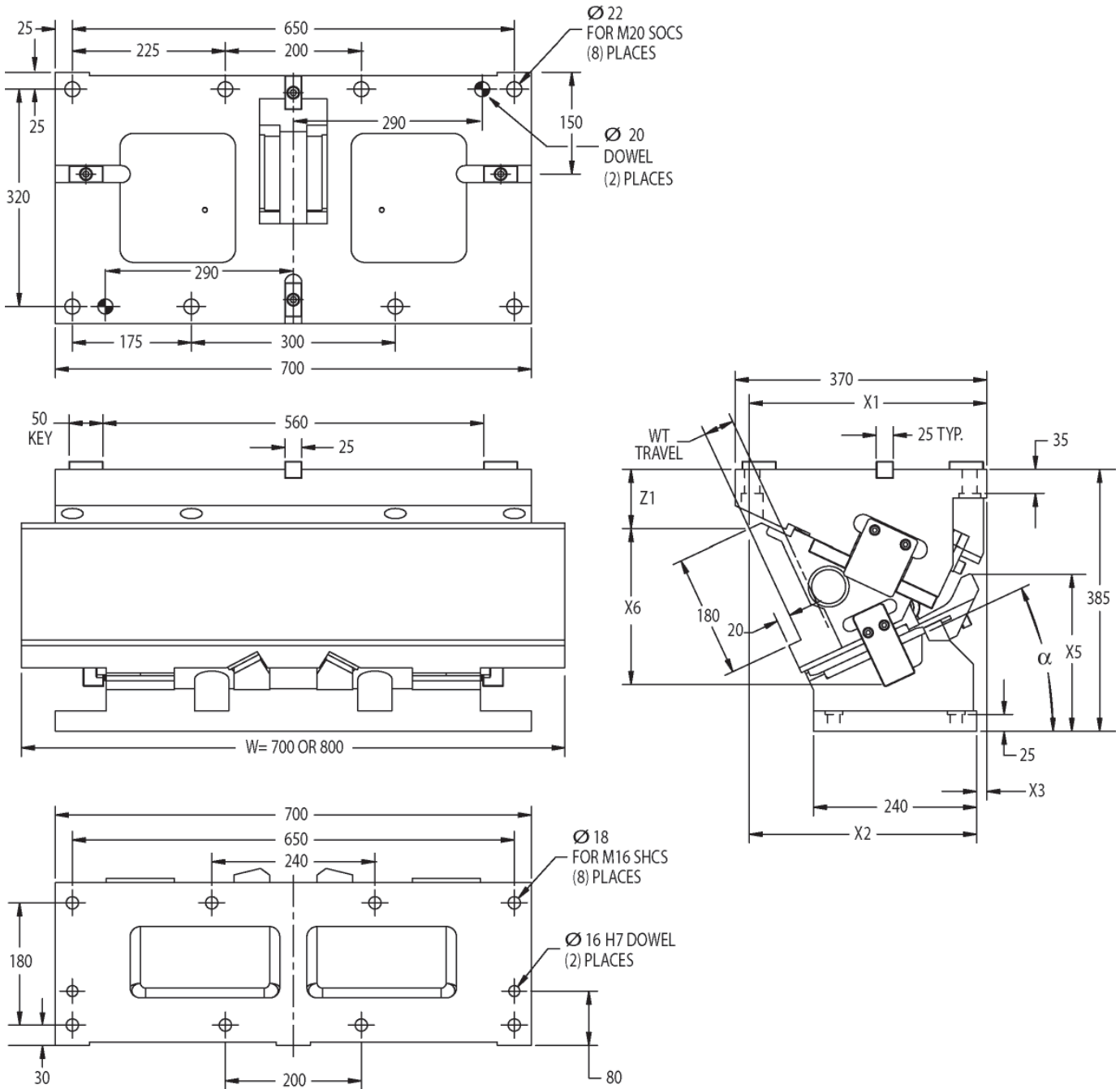
## CAM WIDTH 600 = W

PART NUMBER		kg	WT	PT	$\alpha$	$\beta$	X1	X2	X3	X5	X6	Z1	Z1+X6
WAC0600-00	0	306.0	38.6	46.0	0°	50°	323.1	219.1	104	128.5	295.0	57.0	352.0
WAC0600-05	5	297.0	42.6	46.1	5°	45°	329.7	249.7	80	151.0	286.5	59.0	345.5
WAC0600-10	10	288.3	46.7	46.7	10°	40°	336.1	271.1	65	171.7	275.8	62.2	338.0
WAC0600-15	15	282.0	50.9	47.6	15°	35°	342.7	292.7	50	192.6	262.9	67.1	330.0
WAC0600-20	20	278.8	55.3	48.9	20°	30°	347.4	312.4	35	213.9	248.1	74.7	322.8
WAC0600-25	25	277.9	60.0	50.7	25°	25°	349.2	334.2	15	231.7	231.4	87.2	318.6
WAC0600-30	30	283.8	65.1	53.1	30°	20°	351.0	351.0	0	238.1	213.0	104.3	317.3
WAC0600-35	35	285.6	70.8	56.1	35°	15°	353.7	368.7	-15	255.3	192.9	117.7	310.6
WAC0600-40	40	287.0	77.1	60.0	40°	10°	355.6	385.6	-30	269.7	171.3	130.2	301.5
WAC0600-45	45	287.0	84.5	65.0	45°	5°	355.4	393.4	-38	278.4	148.5	144.8	293.3
WAC0600-50	50	292.4	93.3	71.0	50°	0°	355.2	415.2	-60	220.7	124.5	161.8	286.3
WAC0600-55	55	306.9	101.1	98.4	55°	-5°	372.6	432.6	-60	223.4	107.8	188.2	296.0
WAC0600-60	60	298.7	118.2	112.8	60°	-10°	368.3	428.3	-60	202.7	82.5	202.1	284.6

Ask Customer Service for design templates on our website or CD.  
 Picture not representative of all angles.

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# Heavy Duty Wide Aerial Cam – 700–800 mm



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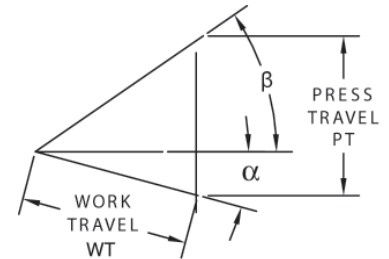


# Heavy Duty Wide Aerial Cam – 700–800 mm

MOUNTING FACE WIDTH 700 OR 800  
 MOUNTING FACE HEIGHT 180  
 OVERALL CAM WIDTH SEE PAGE 6  
 SHUT HEIGHT 385

SLIDE STROKE 60.0  
 WORK TRAVEL (WT) SEE CHART  
 PRESS STROKE (PT) SEE CHART



FASTENER SCHEDULE DOWELS SCREWS  
 DRIVER 2-Ø16 8-M16  
 BODY 2-Ø20 8-M20



## CAM WIDTH 700 = W

PART NUMBER		kg	WT	PT	NOTE: FOR REST OF DIMENSIONS SEE CHART BELOW
WAC0700-00	0	405.7	38.6	46.0	
WAC0700-05	5	394.4	42.6	46.1	
WAC0700-10	10	385.8	46.7	46.7	
WAC0700-15	15	421.6	50.9	47.6	
WAC0700-20	20	371.1	55.3	48.9	
WAC0700-25	25	372.3	60.0	50.7	
WAC0700-30	30	379.7	65.1	53.1	
WAC0700-35	35	382.3	70.8	56.1	
WAC0700-40	40	384.1	77.1	60.0	
WAC0700-45	45	383.6	84.5	65.0	
WAC0700-50	50	394.9	93.3	71.0	
WAC0700-55	55	415.1	101.1	98.4	
WAC0700-60	60	407.6	118.2	112.8	

### ORDERING EXAMPLE:

WAC0700-10 xx  
 COIL SPRING (CS)   
 NITROGEN SPRING (NS) 

SPRING RETURN FORCE FINAL LOAD (N)		# OF SPRINGS WITH CAM	OPTIONAL SPRING POCKETS	RETURN FORCE PER SPRING
TYPE	FINAL LOAD (N)			FINAL (N)
COIL	21552	4	NONE	5388
NITROGEN	20700	2	2	110380

### NOTES

- ◆ Nitrogen cylinders do not have a pre-load. Listed nitrogen ratings are at the end of their stroke.
- ◆ Four spring pockets built into the cam, two nitrogen springs supplied with nitrogen spring configuration. Spring return calculated based on the standard spring quantity. Customer can add an additional spring for more return force.
- ◆ Exceeding the maximum tooling envelope will reduce cam performance and shorten the life of the cam.

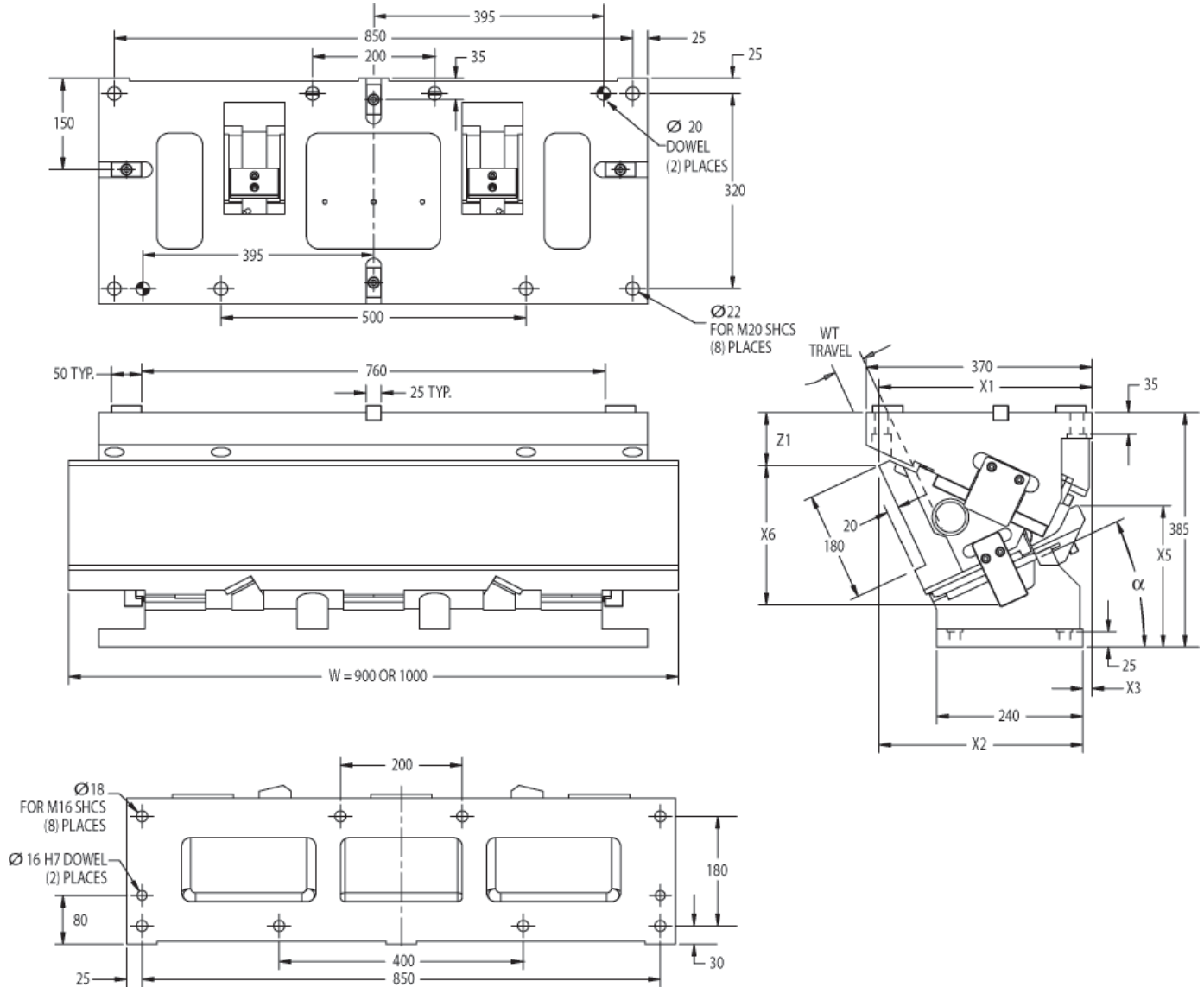
## CAM WIDTH 800 = W

PART NUMBER		kg	WT	PT	$\alpha$	$\beta$	X1	X2	X3	X5	X6	Z1	Z1+X6
WAC0800-00	0	412.2	38.6	46.0	0°	50°	323.1	219.1	104	128.5	295.0	57.0	352.0
WAC0800-05	5	400.9	42.6	46.1	5°	45°	329.7	249.7	80	151.0	286.5	59.0	345.5
WAC0800-10	10	392.3	46.7	46.7	10°	40°	336.1	271.1	65	171.7	275.8	62.2	338.0
WAC0800-15	15	428.1	50.9	47.6	15°	35°	342.7	292.7	50	192.6	262.9	67.1	330.0
WAC0800-20	20	377.6	55.3	48.9	20°	30°	347.4	312.4	35	213.9	248.1	74.7	322.8
WAC0800-25	25	378.8	60.0	50.7	25°	25°	349.2	334.2	15	231.7	231.4	87.2	318.6
WAC0800-30	30	386.2	65.1	53.1	30°	20°	351.0	351.0	0	238.1	213.0	104.3	317.3
WAC0800-35	35	388.8	70.8	56.1	35°	15°	353.7	368.7	-15	255.3	192.9	117.7	310.6
WAC0800-40	40	390.6	77.1	60.0	40°	10°	355.6	385.6	-30	269.7	171.3	130.2	301.5
WAC0800-45	45	390.1	84.5	65.0	45°	5°	355.4	393.4	-38	278.4	148.5	144.8	293.3
WAC0800-50	50	401.4	93.3	71.0	50°	0°	355.2	415.2	-60	220.7	124.5	161.8	286.3
WAC0800-55	55	421.8	101.1	98.4	55°	-5°	372.6	432.6	-60	223.4	107.8	188.2	296.0
WAC0800-60	60	414.3	118.2	112.8	60°	-10°	368.3	428.3	-60	202.7	82.5	202.1	284.6

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# Heavy Duty Wide Aerial Cam – 900–1000 mm



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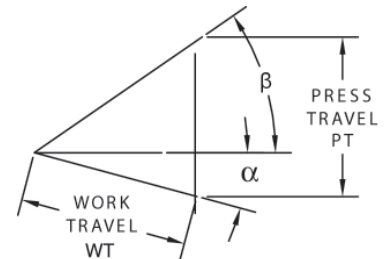
All dimensions are for reference only.  
No tolerance is stated or implied.

# Heavy Duty Wide Aerial Cam – 900–1000 mm

MOUNTING FACE WIDTH 900 OR 1000  
MOUNTING FACE HEIGHT 180  
OVERALL CAM WIDTH SEE PAGE 8  
SHUT HEIGHT 385

SLIDE STROKE 60.0  
WORK TRAVEL (WT) SEE CHART  
PRESS STROKE (PT) SEE CHART

FASTENER SCHEDULE DOWELS SCREWS  
DRIVER 2-Ø16 8-M16  
BODY 2-Ø20 8-M20




CAM DIAGRAM

## CAM WIDTH 900 = W

PART NUMBER		kg	WT	PT	NOTE: FOR REST OF DIMENSIONS SEE CHART BELOW
WAC0900-00	0	518.5	38.6	46.0	
WAC0900-05	5	504.7	42.6	46.1	
WAC0900-10	10	491.8	46.7	46.7	
WAC0900-15	15	483.2	50.9	47.6	
WAC0900-20	20	478.6	55.3	48.9	
WAC0900-25	25	480.0	60.0	50.7	
WAC0900-30	30	489.3	65.1	53.1	
WAC0900-35	35	493.7	70.8	56.1	
WAC0900-40	40	495.1	77.1	60.0	
WAC0900-45	45	496.2	84.5	65.0	
WAC0900-50	50	510.2	93.3	71.0	
WAC0900-55	55	536.1	101.1	98.4	
WAC0900-60	60	523.0	118.2	112.8	

### ORDERING EXAMPLE:

WAC0900-10 xx  
COIL SPRING (CS)   
NITROGEN SPRING (NS) 

SPRING RETURN FORCE FINAL LOAD (N)		# OF SPRINGS WITH CAM	OPTIONAL SPRING POCKETS	RETURN FORCE PER SPRING
TYPE	FINAL LOAD (N)			FINAL (N)
COIL	26940	5	NONE	5388
NITROGEN	31100	3	2	10380

### NOTES

- ◆ Nitrogen cylinders do not have a pre-load. Listed nitrogen ratings are at the end of their stroke.
- ◆ Five spring pockets built into the cam, three nitrogen springs supplied with nitrogen spring configuration. Spring return calculated based on the standard spring quantity. Customer can add an additional spring for more return force.
- ◆ Exceeding the maximum tooling envelope will reduce cam performance and shorten the life of the cam.

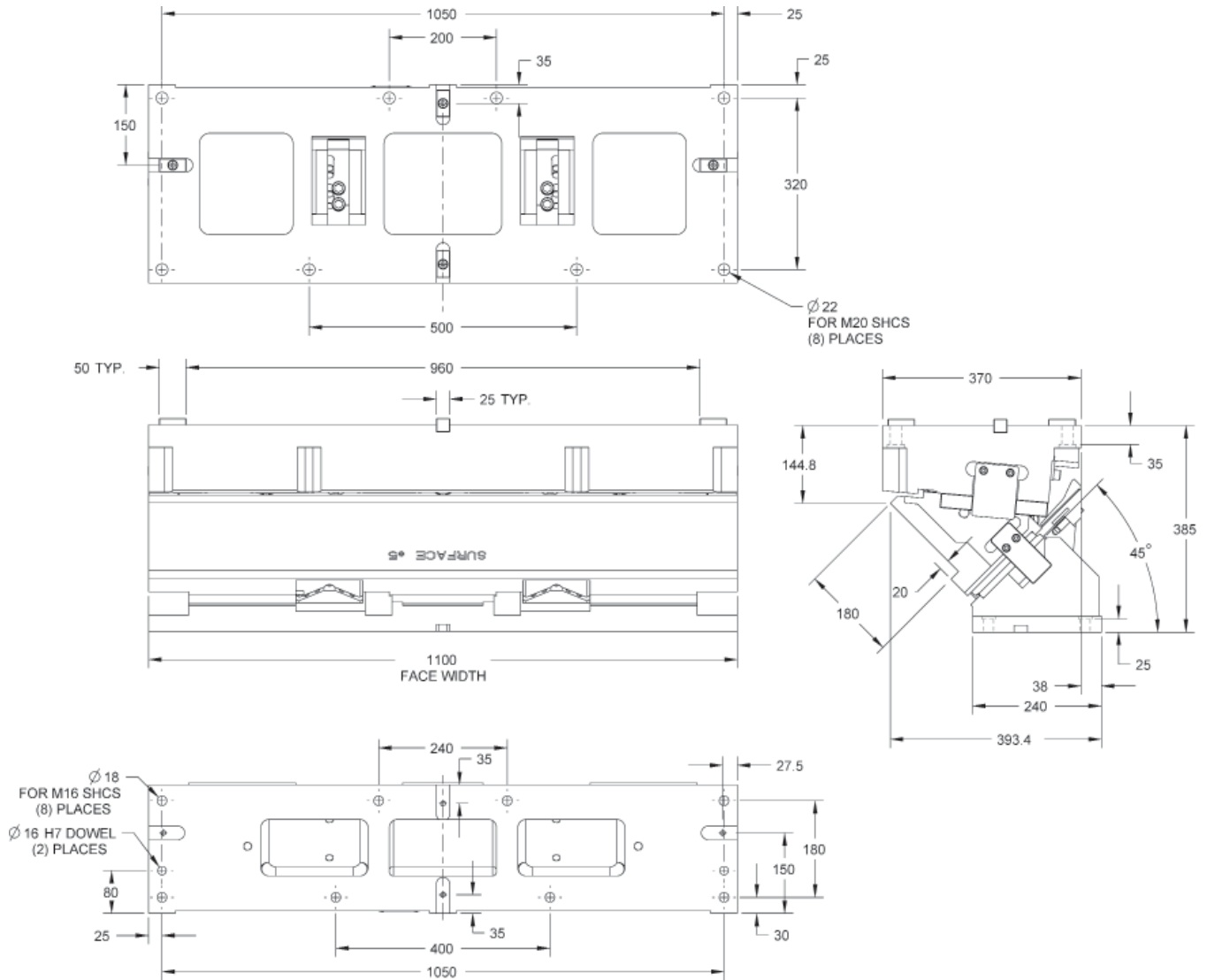
## CAM WIDTH 1000 = W

PART NUMBER		kg	WT	PT	$\alpha$	$\beta$	X1	X2	X3	X5	X6	Z1	Z1+X6
WAC1000-00	0	525.3	38.6	46.0	0°	50°	323.1	219.1	104	128.5	295.0	57.0	352.0
WAC1000-05	5	511.5	42.6	46.1	5°	45°	329.7	249.7	80	151.0	286.5	59.0	345.5
WAC1000-10	10	498.6	46.7	46.7	10°	40°	336.1	271.1	65	171.7	275.8	62.2	338.0
WAC1000-15	15	490.0	50.9	47.6	15°	35°	342.7	292.7	50	192.6	262.9	67.1	330.0
WAC1000-20	20	485.4	55.3	48.9	20°	30°	347.4	312.4	35	213.9	248.1	74.7	322.8
WAC1000-25	25	486.8	60.0	50.7	25°	25°	349.2	334.2	15	231.7	231.4	87.2	318.6
WAC1000-30	30	496.1	65.1	53.1	30°	20°	351.0	351.0	0	238.1	213.0	104.3	317.3
WAC1000-35	35	500.5	70.8	56.1	35°	15°	353.7	368.7	-15	255.3	192.9	117.7	310.6
WAC1000-40	40	501.9	77.1	60.0	40°	10°	355.6	385.6	-30	269.7	171.3	130.2	301.5
WAC1000-45	45	503.0	84.5	65.0	45°	5°	355.4	393.4	-38	278.4	148.5	144.8	293.3
WAC1000-50	50	517.0	93.3	71.0	50°	0°	355.2	415.2	-60	220.7	124.5	161.8	286.3
WAC1000-55	55	542.8	101.1	98.4	55°	-5°	372.6	432.6	-60	223.4	107.8	188.2	296.0
WAC1000-60	60	529.7	118.2	112.8	60°	-10°	368.3	428.3	-60	202.7	82.5	202.1	284.6

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# Heavy Duty Wide Aerial Cam – 1100–1200 mm



Ask Customer Service for design templates on our website or CD.  
Picture not representative of all angles.

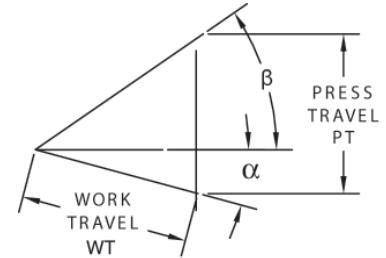
All dimensions are for reference only.  
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# Heavy Duty Wide Aerial Cam – 1100–1200 mm

MOUNTING FACE WIDTH 1100 OR 1200  
MOUNTING FACE HEIGHT 180  
OVERALL CAM WIDTH SEE PAGE 10  
SHUT HEIGHT 385

SLIDE STROKE 60.0  
WORK TRAVEL (WT) SEE CHART  
PRESS STROKE (PT) SEE CHART

FASTENER SCHEDULE DOWELS SCREWS  
DRIVER 2-Ø16 8-M16  
BODY 2-Ø20 8-M20





CAM DIAGRAM

## CAM WIDTH 1100 = W

PART NUMBER		kg	WT	PT	NOTE: FOR REST OF DIMENSIONS SEE CHART BELOW
WAC1100-00	0	685.3	38.6	46.0	
WAC1100-05	5	669.8	42.6	46.1	
WAC1100-10	10	656.1	46.7	46.7	
WAC1100-15	15	644.8	50.9	47.6	
WAC1100-20	20	641.5	55.3	48.9	
WAC1100-25	25	644.9	60.0	50.7	
WAC1100-30	30	663.2	65.1	53.1	
WAC1100-35	35	662.0	70.8	56.1	
WAC1100-40	40	666.3	77.1	60.0	
WAC1100-45	45	666.7	84.5	65.0	
WAC1100-50	50	685.3	93.3	71.0	
WAC1100-55	55	718.7	101.1	98.4	
WAC1100-60	60	697.7	118.2	112.8	
WAC1100-65	65	727.0	141.4	133.4	

### ORDERING EXAMPLE:

WAC01100-10 xx  
COIL SPRING (CS)   
NITROGEN SPRING (NS) 

SPRING RETURN FORCE FINAL LOAD (N)		# OF SPRINGS WITH CAM	OPTIONAL SPRING POCKETS	RETURN FORCE PER SPRING
TYPE	FINAL LOAD (N)			FINAL (N)
COIL	26940	5	NONE	5388
NITROGEN	31100	3	2	10380

### NOTES

- ◆ Nitrogen cylinders do not have a pre-load. Listed nitrogen ratings are at the end of their stroke.
- ◆ Five spring pockets built into the cam, three nitrogen springs supplied with nitrogen spring configuration. Spring return calculated based on the standard spring quantity. Customer can add an additional spring for more return force.
- ◆ Exceeding the maximum tooling envelope will reduce cam performance and shorten the life of the cam.

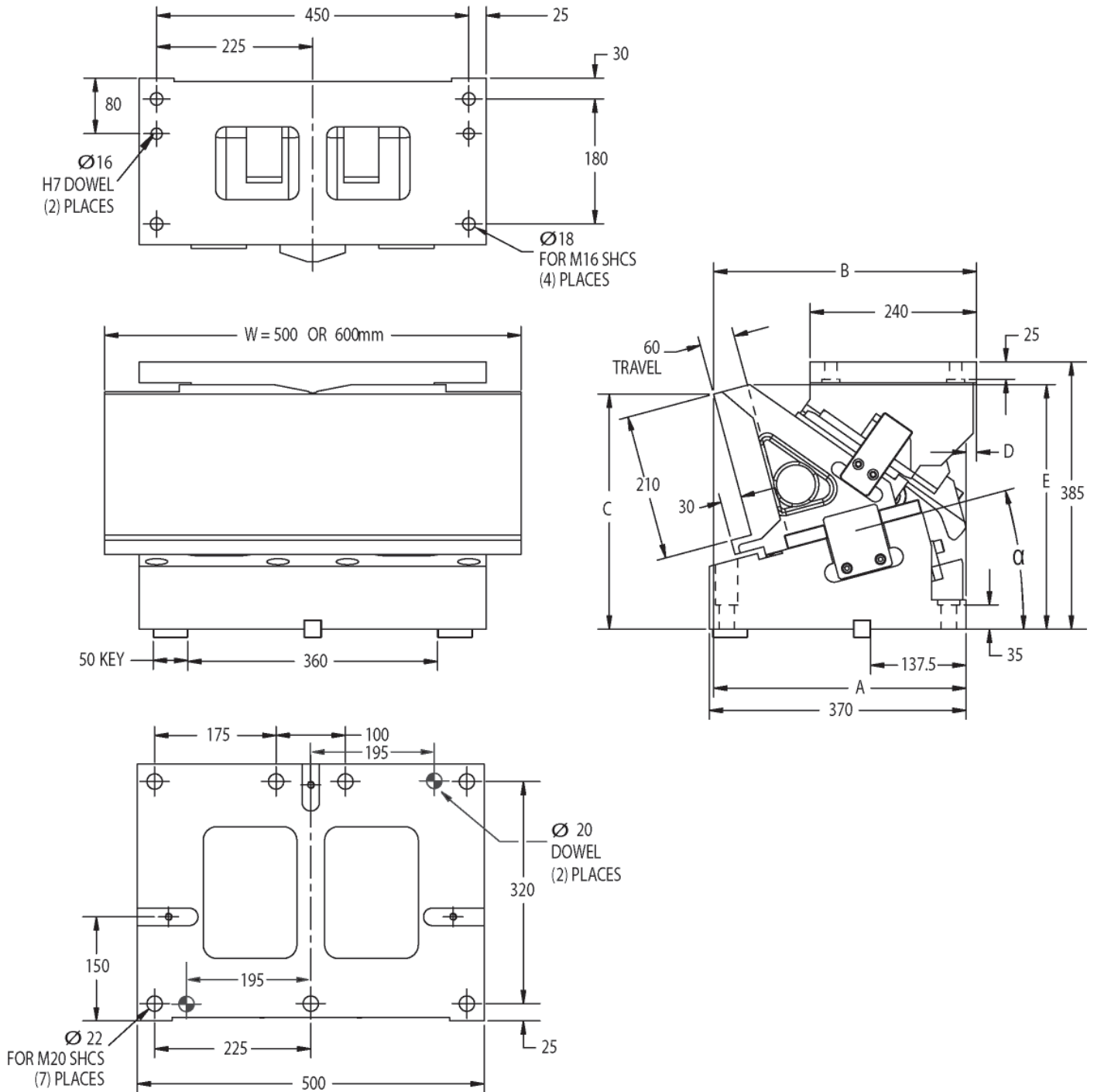
## CAM WIDTH 1200 = W

PART NUMBER		kg	WT	PT	$\alpha$	$\beta$	X1	X2	X3	X5	X6	Z1	Z1+X6
WAC1200-00	0	691.5	38.6	46.0	0°	50°	323.1	219.1	104	133.2	295.0	57.0	352.0
WAC1200-05	5	676.0	42.6	46.1	5°	45°	329.7	249.7	80	154.1	286.5	59.0	345.5
WAC1200-10	10	662.3	46.7	46.7	10°	40°	336.1	271.1	65	169.3	275.8	62.2	338.0
WAC1200-15	15	651.0	50.9	47.6	15°	35°	342.7	292.7	50	190.4	260.0	67.1	327.1
WAC1200-20	20	647.7	55.3	48.9	20°	30°	347.4	312.4	35	208.7	245.3	74.7	320.0
WAC1200-25	25	651.1	60.0	50.7	25°	25°	349.2	334.2	15	222.1	228.7	87.2	315.9
WAC1200-30	30	669.4	65.1	53.1	30°	20°	351.0	351.0	0	236.7	210.4	104.3	314.7
WAC1200-35	35	668.2	70.8	56.1	35°	15°	353.7	368.7	-15	251.9	190.4	117.7	308.1
WAC1200-40	40	672.5	77.1	60.0	40°	10°	355.6	385.6	-30	270.1	169.0	130.2	299.2
WAC1200-45	45	672.9	84.5	65.0	45°	5°	355.4	393.4	-38	284.9	146.4	144.8	291.2
WAC1200-50	50	691.5	93.3	71.0	50°	0°	355.2	415.2	-60	198.6	122.6	161.8	284.4
WAC1200-55	55	725.0	101.1	98.4	55°	15°	372.6	432.6	-60	203.6	106.0	188.2	294.2
WAC1200-60	60	704.0	118.2	112.8	60°	10°	368.3	428.3	-60	185.4	81.0	202.1	283.1
WAC1200-65	65	733.3	141.4	133.4	65°	5°	361.8	451.8	-90	217.7	55.4	217.5	272.9

Ask Customer Service for design templates on our website or CD.  
Picture not representative of all angles.

All dimensions are for reference only.  
No tolerance is stated or implied.

# Heavy Duty Wide Die Mount Cam – 500–600 mm



Ask Customer Service for design templates on our website or CD.  
Picture not representative of all angles.

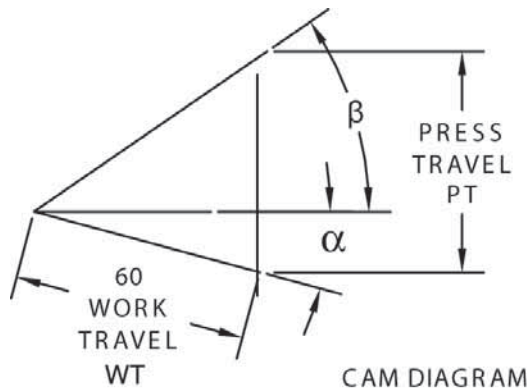
All dimensions are for reference only.  
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# Heavy Duty Wide Die Mount Cam – 500–600 mm



MOUNTING FACE WIDTH 500 OR 600  
MOUNTING FACE HEIGHT 210  
OVERALL CAM WIDTH SEE PAGE 12  
SHUT HEIGHT 385

SLIDE STROKE 60.0  
WORK TRAVEL (WT) 60.0  
PRESS STROKE (PT) SEE CHART

FASTENER SCHEDULE DOWELS SCREWS  
DRIVER 2-Ø16 4-M16  
BODY 2-Ø20 7-M20



## ORDERING EXAMPLE:

WDM0500-10 xx  
COIL SPRING (CS)   
NITROGEN SPRING (NS) 

SPRING RETURN FORCE FINAL LOAD (N)		# OF SPRINGS WITH CAM	OPTIONAL SPRING POCKETS	RETURN FORCE PER SPRING
TYPE	FINAL LOAD (N)			FINAL (N)
COIL	10776	2	NONE	5388
NITROGEN	20700	2	NONE	10380

## NOTES

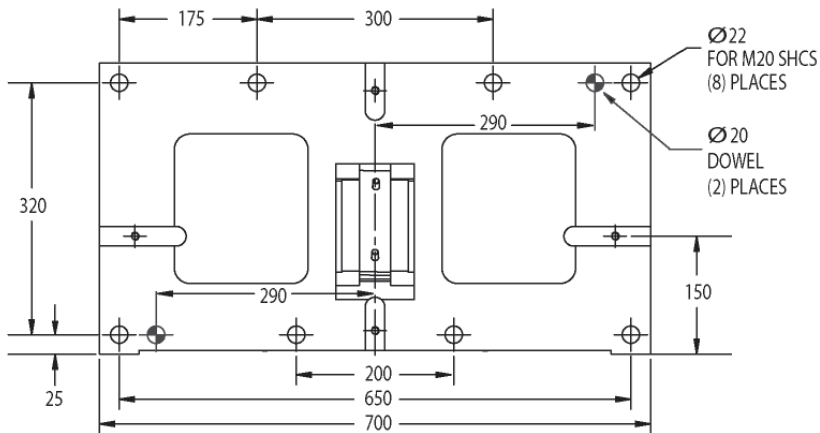
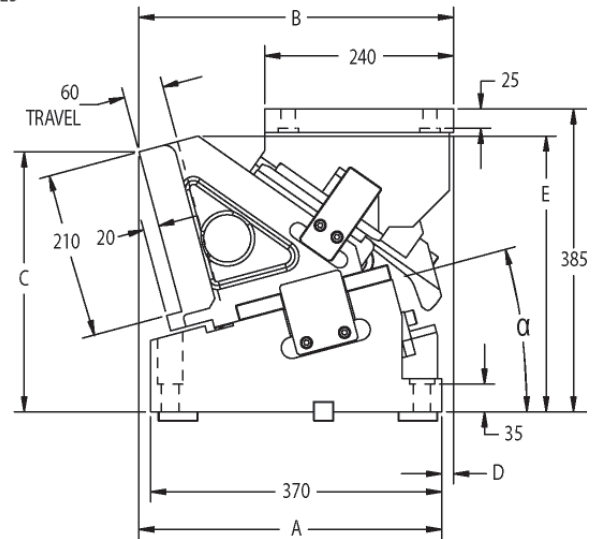
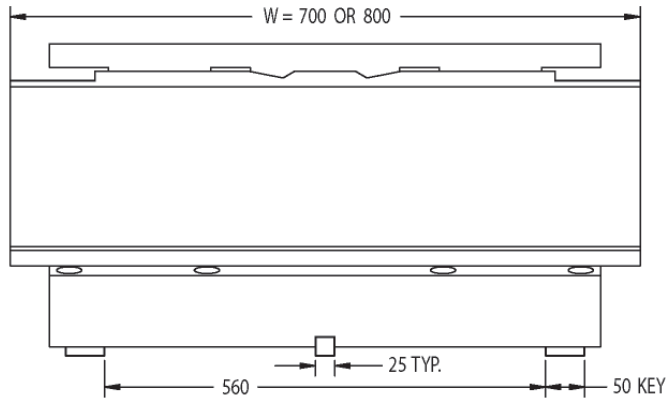
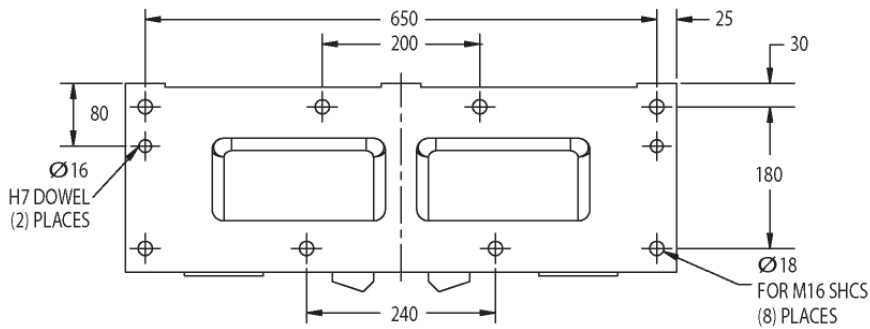
- ♦ Nitrogen cylinders do not have a pre-load. Listed nitrogen ratings are at the end of their stroke.
- ♦ Exceeding the maximum tooling envelope will reduce cam performance and shorten the life of the cam.

CAM WIDTH	PART NUMBER	$\alpha$	$\beta$	PT	kg	A	B	C	D	E
500mm	WDM0500-00	0°	50°	71.5	333.2	330.00	390.00	375.00	60	375.00
	WDM0500-05	5°	45°	65.0	324.1	348.90	386.90	359.40	38	366.00
	WDM0500-10	10°	40°	60.0	315.5	367.80	397.80	344.50	30	357.30
	WDM0500-15	15°	35°	56.1	309.2	384.50	399.50	330.20	15	349.30
	WDM0500-20	20°	30°	53.0	306.0	400.20	400.20	313.30	0	338.50
600mm	WDM0600-00	0°	50°	71.5	340.5	330.00	390.00	375.00	60	75.00
	WDM0600-05	5°	45°	65.0	331.4	348.90	386.90	359.40	38	365.80
	WDM0600-10	10°	40°	60.0	322.8	367.80	397.80	344.50	30	357.30
	WDM0600-15	15°	35°	56.1	316.5	384.50	399.50	330.20	15	349.30
	WDM0600-20	20°	30°	53.0	313.3	400.20	400.20	313.30	0	338.50

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# Heavy Duty Wide Die Mount Cam – 700–800 mm



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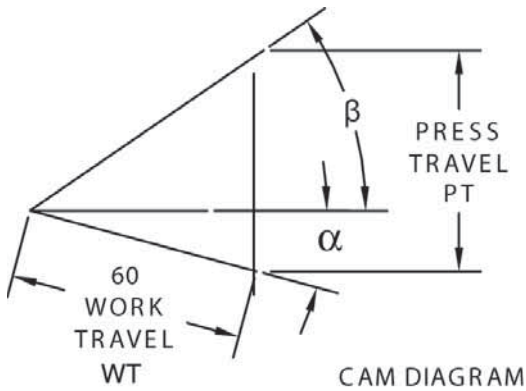


# Heavy Duty Wide Die Mount Cam – 700–800 mm



MOUNTING FACE WIDTH 700 OR 800  
 MOUNTING FACE HEIGHT 210  
 OVERALL CAM WIDTH SEE PAGE 14  
 SHUT HEIGHT 385

SLIDE STROKE 60.0  
 WORK TRAVEL (WT) 60  
 PRESS STROKE (PT) SEE CHART

FASTENER SCHEDULE DOWELS SCREWS  
 DRIVER 2-Ø16 8-M16  
 BODY 2-Ø20 8-M20



### ORDERING EXAMPLE:

WDM0700-10 xx  
 COIL SPRING (CS)   
 NITROGEN SPRING (NS) 

SPRING RETURN FORCE FINAL LOAD (N)		# OF SPRINGS WITH CAM	OPTIONAL SPRING POCKETS	RETURN FORCE PER SPRING
TYPE	FINAL LOAD (N)			FINAL (N)
COIL	21552	4	NONE	5388
NITROGEN	20700	2	2	10380

### NOTES

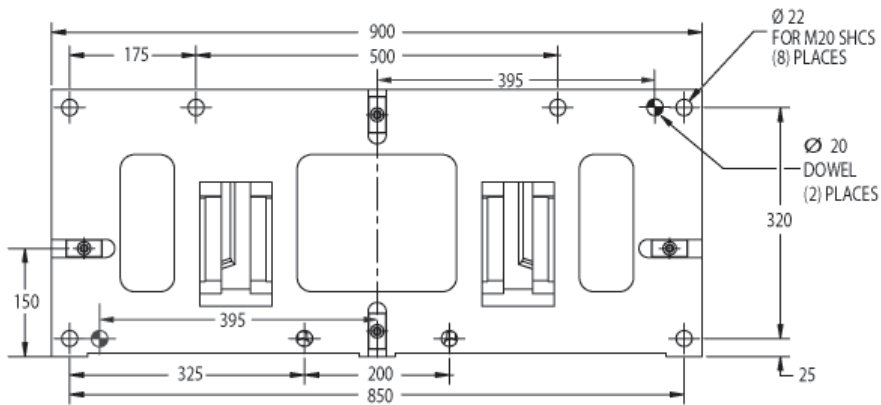
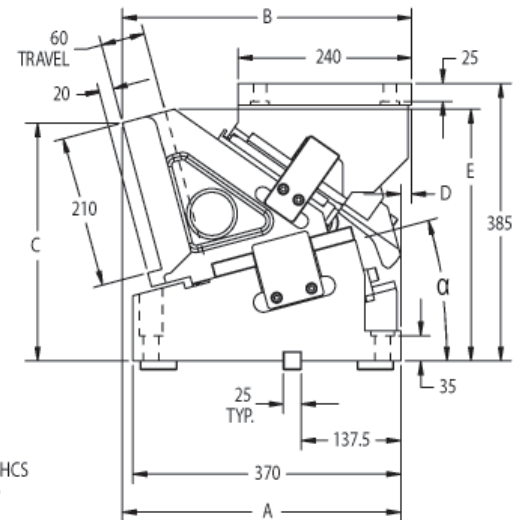
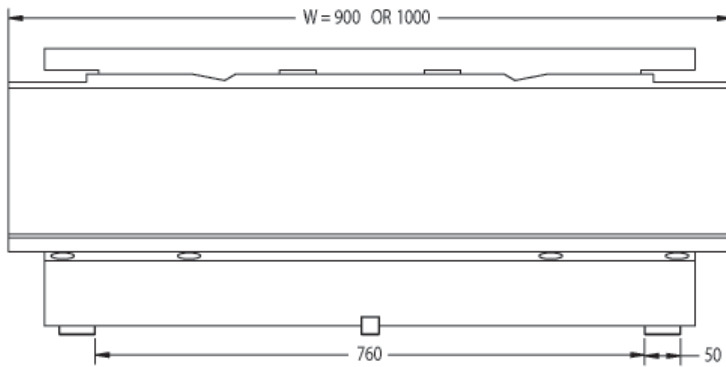
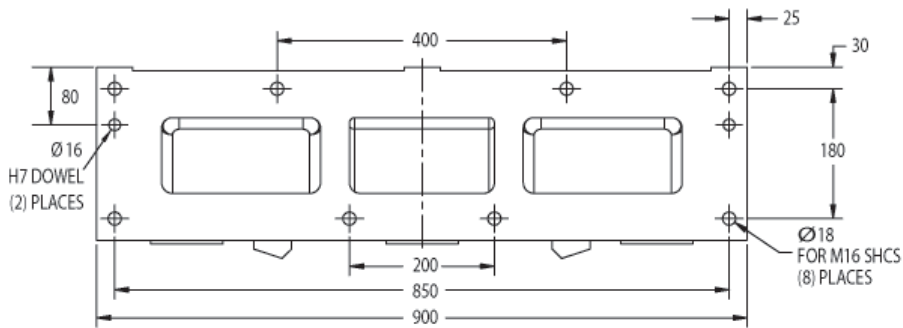
- ◆ Nitrogen cylinders do not have a pre-load. Listed nitrogen ratings are at the end of their stroke.
- ◆ Four spring pockets built into the cam, two nitrogen springs supplied with nitrogen spring configuration. Spring return calculated based on the standard spring quantity. Customer can add an additional spring for more return force.
- ◆ Exceeding the maximum tooling envelope will reduce cam performance and shorten the life of the cam.

CAM WIDTH	PART NUMBER	$\alpha$	$\beta$	PT	kg	A	B	C	D	E
700mm	WDM0700-00	0°	50°	71.5	387.2	330.00	390.00	375.00	60	375.00
	WDM0700-05	5°	45°	65.0	378.1	348.90	386.90	359.40	38	366.00
	WDM0700-10	10°	40°	60.0	369.5	367.80	397.80	344.50	30	357.30
	WDM0700-15	15°	35°	56.1	309.2	384.50	399.50	330.20	15	349.30
	WDM0700-20	20°	30°	53.0	360.0	400.20	400.20	313.30	0	338.50
800mm	WDM0800-00	0°	50°	71.5	444.5	330.00	390.00	375.00	60	375.00
	WDM0800-05	5°	45°	65.0	381.4	348.90	386.90	359.40	38	365.80
	WDM0800-10	10°	40°	60.0	372.8	367.80	397.80	344.50	30	357.30
	WDM0800-15	15°	35°	56.1	366.5	384.50	399.50	330.20	15	349.30
	WDM0800-20	20°	30°	53.0	363.3	400.20	400.20	313.30	0	338.50

Ask Customer Service for design templates on our website or CD.  
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# Heavy Duty Wide Die Mount Cam – 900–1000 mm



Ask Customer Service for design templates on our website or CD.  
Picture not representative of all angles.

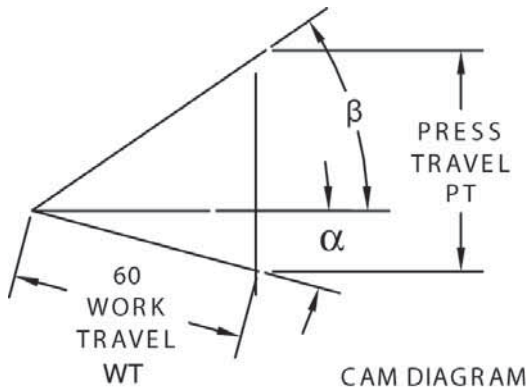
All dimensions are for reference only.  
No tolerance is stated or implied.

# Heavy Duty Wide Die Mount Cam – 900–1000 mm



MOUNTING FACE WIDTH 900 OR 1000  
 MOUNTING FACE HEIGHT 210  
 OVERALL CAM WIDTH SEE PAGE 16  
 SHUT HEIGHT 385

SLIDE STROKE 60.0  
 WORK TRAVEL (WT) 60  
 PRESS STROKE (PT) SEE CHART

FASTENER SCHEDULE DOWELS SCREWS  
 DRIVER 2-Ø16 8-M16  
 BODY 2-Ø20 8-M20



### ORDERING EXAMPLE:

WDM0900-10 xx  
 COIL SPRING (CS)   
 NITROGEN SPRING (NS) 

SPRING RETURN FORCE FINAL LOAD (N)		# OF SPRINGS WITH CAM	OPTIONAL SPRING POCKETS	RETURN FORCE PER SPRING
TYPE	FINAL LOAD (N)			FINAL (N)
COIL	26940	5	NONE	5388
NITROGEN	31100	3	2	10380

### NOTES

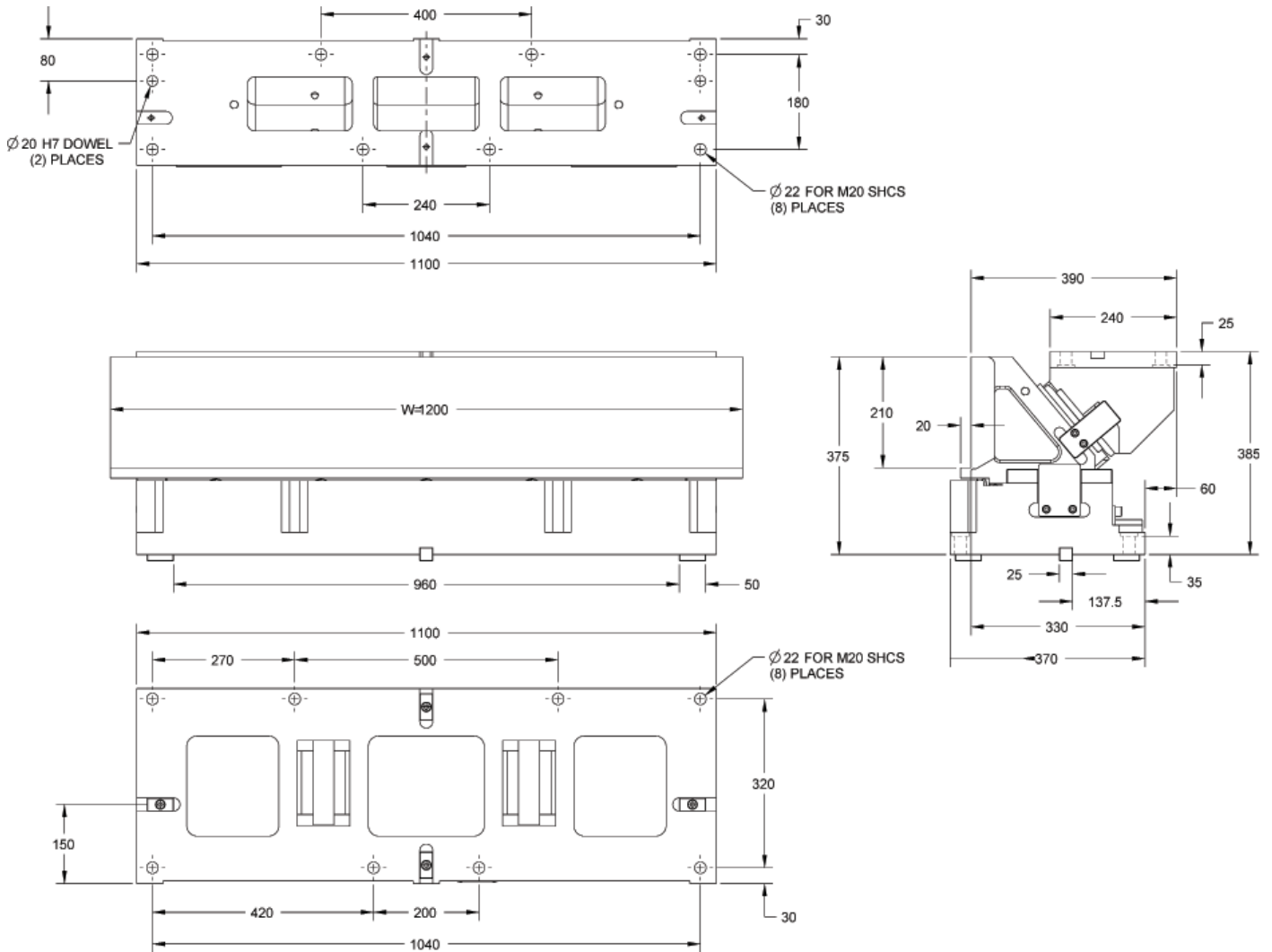
- ◆ Nitrogen cylinders do not have a pre-load. Listed nitrogen ratings are at the end of their stroke.
- ◆ Five spring pockets built into the cam, three nitrogen springs supplied with nitrogen spring configuration. Spring return calculated based on the standard spring quantity. Customer can add an additional spring for more return force.
- ◆ Exceeding the maximum tooling envelope will reduce cam performance and shorten the life of the cam.

CAM WIDTH	PART NUMBER	$\alpha$	$\beta$	PT	kg	A	B	C	D	E
900mm	WDM0900-00	0°	50°	71.5	573.0	330.00	390.00	375.00	60	375.00
	WDM0900-05	5°	45°	65.0	560.0	348.90	386.90	359.40	38	366.00
	WDM0900-10	10°	40°	60.0	559.0	367.80	397.80	344.50	30	357.30
	WDM0900-15	15°	35°	56.1	556.0	384.50	399.50	330.20	15	349.30
	WDM0900-20	20°	30°	53.0	552.0	400.20	400.20	313.30	0	338.50
1000mm	WDM1000-00	0°	50°	71.5	582.0	330.00	390.00	375.00	60	375.00
	WDM1000-05	5°	45°	65.0	569.0	348.90	386.90	359.40	38	365.80
	WDM1000-10	10°	40°	60.0	568.0	367.80	397.80	344.50	30	357.30
	WDM1000-15	15°	35°	56.1	565.0	384.50	399.50	330.20	15	349.30
	WDM1000-20	20°	30°	53.0	561.0	400.20	400.20	313.30	0	338.50

Ask Customer Service for design templates on our website or CD.  
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# Heavy Duty Wide Die Mount Cam – 1100–1200 mm



Ask Customer Service for design templates on our website or CD.  
Picture not representative of all angles.

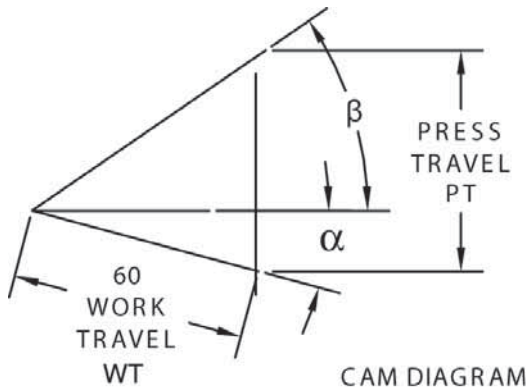
All dimensions are for reference only.  
No tolerance is stated or implied.

# Heavy Duty Wide Die Mount Cam – 1100–1200 mm



MOUNTING FACE WIDTH 1100 OR 1200  
 MOUNTING FACE HEIGHT 210  
 OVERALL CAM WIDTH SEE PAGE 18  
 SHUT HEIGHT 385

SLIDE STROKE 60.0  
 WORK TRAVEL (WT) 60  
 PRESS STROKE (PT) SEE CHART

FASTENER SCHEDULE DOWELS SCREWS  
 DRIVER 2-Ø20 H7 8-M20  
 BODY NONE 8-M20



### ORDERING EXAMPLE:

WDM1100-10 xx  
 COIL SPRING (CS)   
 NITROGEN SPRING (NS) 

SPRING RETURN FORCE FINAL LOAD (N)		# OF SPRINGS WITH CAM	OPTIONAL SPRING POCKETS	RETURN FORCE PER SPRING
TYPE	FINAL LOAD (N)			FINAL (N)
COIL	26940	5	NONE	5388
NITROGEN	31100	3	2	10380

### NOTES

- ◆ Nitrogen cylinders do not have a pre-load. Listed nitrogen ratings are at the end of their stroke.
- ◆ Five spring pockets built into the cam, three nitrogen springs supplied with nitrogen spring configuration. Spring return calculated based on the standard spring quantity. Customer can add an additional spring for more return force.
- ◆ Exceeding the maximum tooling envelope will reduce cam performance and shorten the life of the cam.

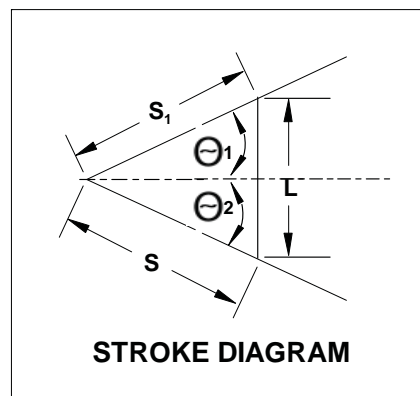
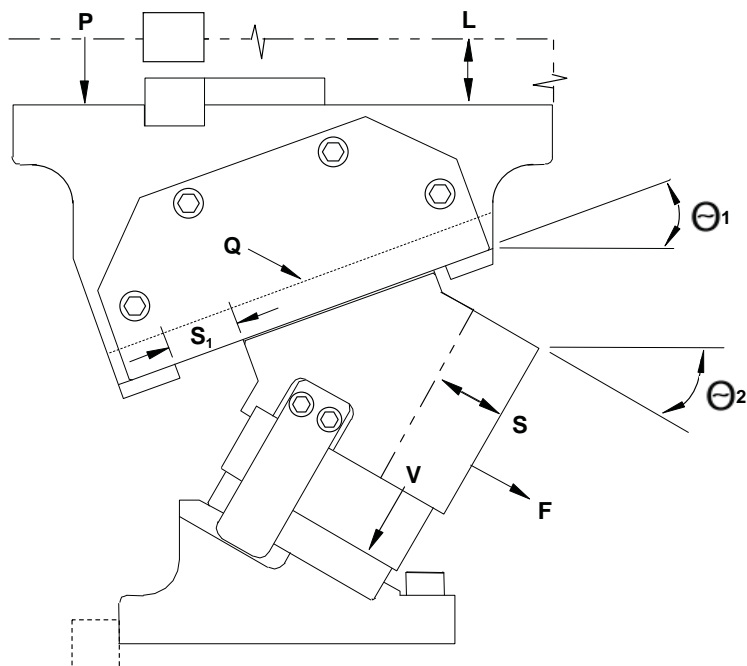
CAM WIDTH	PART NUMBER	$\alpha$	$\beta$	PT	kg	A	B	C	D	E
1100	WDM1100-00CS	0	50	71.5	736	330.0	390.0	375.0	60.0	375.0
	WDM1100-05CS	5	45	65	717.3	348.9	386.9	359.4	38.0	366.2
	WDM1100-10CS	10	40	60	716.6	367.8	397.8	344.5	30.0	357.3
	WDM1100-15CS	15	35	56.1	726.5	384.5	399.5	330.2	15.0	349.3
	WDM1100-20CS	20	30	53.1	705.8	400.2	400.2	313.3	0.0	339.8
1200	WDM1200-00CS	0	50	71.5	743.4	330.0	390.0	375.0	60.0	375.0
	WDM1200-05CS	5	45	65	724.7	348.9	386.9	359.4	38.0	366.2
	WDM1200-10CS	10	40	60	724	367.8	397.8	344.5	30.0	357.3
	WDM1200-15CS	15	35	56.1	733.9	384.5	399.5	330.2	15.0	349.3
	WDM1200-20CS	20	30	53.1	713.2	400.2	400.2	313.3	0.0	339.8

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# Calculation of Load and Stroke

- Θ<sub>1</sub> DRIVER INCLINATION ANGLE
- Θ<sub>2</sub> WORK ANGLE
- F FORCE REQUIRED (PIERCING/TRIMMING/FLANGING FORCE + PAD FORCE + SPRING RETURN FORCE)
- P PRESS FORCE
- V LOAD ON SLIDE SURFACE AND DRIVER
- Q LOAD ON SLIDE SURFACE AND BODY
- S WORKING STROKE
- S<sub>1</sub> SPRING STROKE (SLIDE TRAVEL)
- L PRESS STROKE



$P = F \times \frac{\cos \Theta_1}{\sin (\Theta_1 + \Theta_2)}$	$L = S \times \frac{\sin (\Theta_1 + \Theta_2)}{\cos \Theta_1}$
$Q = F \times \frac{1}{\sin (\Theta_1 + \Theta_2)}$	$S_1 = S \times \frac{\cos \Theta_2}{\cos \Theta_1}$
$V = F \times \frac{1}{\tan (\Theta_1 + \Theta_2)}$	$S = S \times \frac{\cos \Theta_1}{\cos \Theta_2}$

# Additional Cam Products

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**MEETS OR EXCEEDS ALL OF NAAMS CAM REQUIREMENTS**



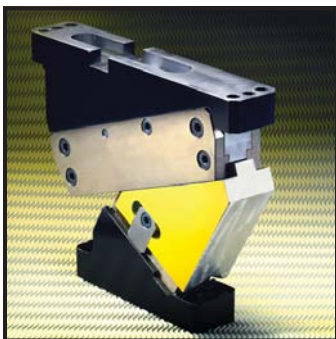
## **IEM® Box Cams & Bump Cams**

- Robust, low-profile and extra-long travel slides allow for deeper piercing and bending
- Work in short or long stroke operations to keep production running
- Maximum Power Cams are designed for light spaces where length and height is limited



## **LamCam™ Aerial & Diemount Cams**

- Cams to fit your press stroke length, work angle and slidewidth
- Die cam slidewidths are available from 50mm to 300mm
- Working angles of 0 – 75° on Aerial Cams; 0 – 30° on Diemount Cams



## **LamCam™ Slim Cams**

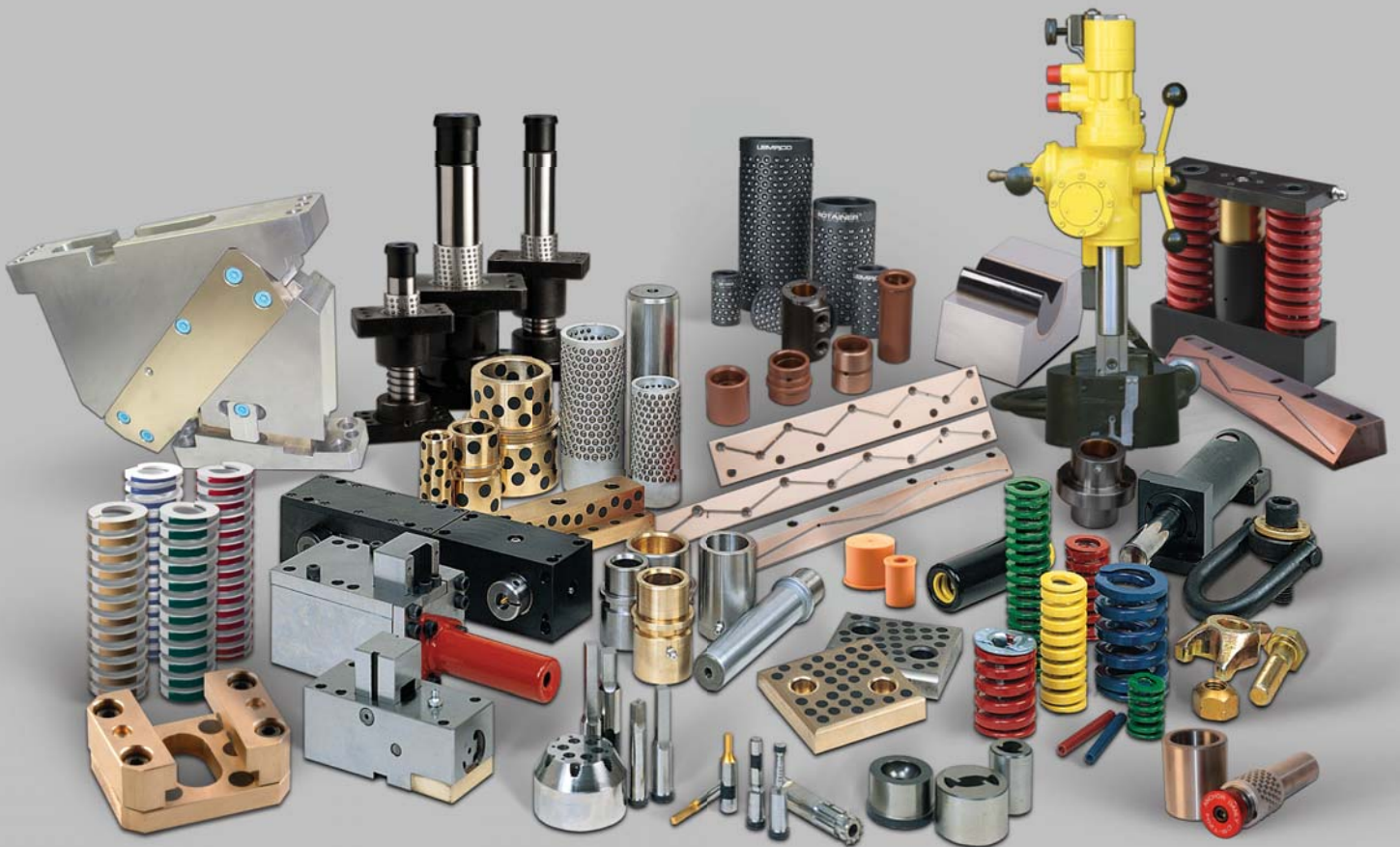
- Robust cam for light and medium duty applications
- Dynamic load rating of 4 tons (35.6kN)
- Dual external positive return systems



## **LamCam™ Roller Cams**

- Designed to function at one million hits plus
- Increased slide surfaces
- Adaptable to any angle





## AERIAL & DIE MOUNT WIDE CAMS CATALOG

# IEM<sup>®</sup>

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