

PANDJIRIS HAS A FULL LINE OF POSITIONERS in numerous standard models. Cantilevered models range from 350-pound units up. They include adjustable and fixed based models on the smaller positioners, and power elevating models on the larger units. Power elevation on the small models is available as an option. Various models and types can be custom manufactured to fit nearly every requirement, such as drop center positioners and gas chambered positioners. Our positioners are often combined with a manipulator or robot to produce a work cell for high quality, efficient, automated welding applications.

If you have special applications, contact our distributor or representative nearest you or Pandjiris directly. We manufacture positioners to fit your exacting needs at a reasonable cost and payback schedule.

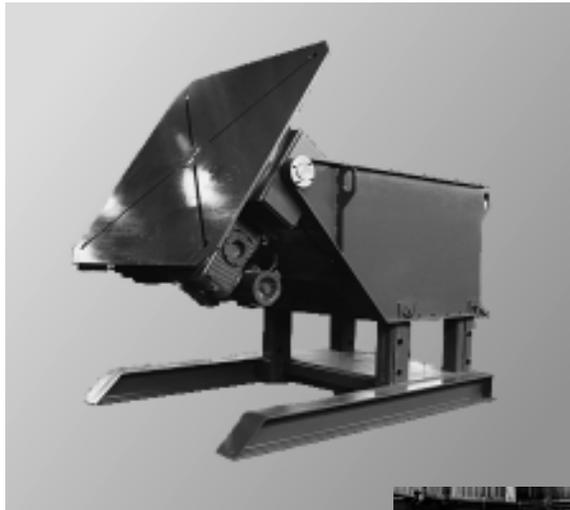
Whether used as a stand-alone unit or as part of a complete system, Pandjiris positioners provide years of reliable, productive service.

#### **Features:**

- Heavy duty integral tilt gear and king pin housing at the heart of Pandjiris positioners ensures smooth turning and tilting.
- Tilt motors are spring activated upon electrical de-activation AC brake motors
- High quality worm gear reducers for smooth operation
- Minimal backlash
- Solid state controls with dynamic braking on the rotation drives
- Universal plug allows for easy installation and changeout of footswitches, hand pendants, and tachometers.
- 360 degree rotation,
- 135 degree tilt on most cantilevered models
- High frequency protected
- Fixed base and adjustable base available on most models
- Powered elevation available on most models

#### **Benefits:**

- Improved ergonomics in manual welding applications.
- Optimal welding position produces more consistent, better quality welds
- Worm gears provide smooth operation even under heavy loads for consistent welds at all speeds and loads
- Built to last! Many Pandjiris positioners are still in production after 20 years or more of service!



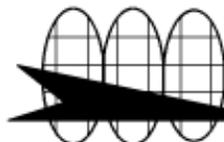
400-12 Positioner



*Positioners provide improved ergonomics as well as optimal welding position in manual welding applications.*



40,000 lb. Precision Servo Positioner



**PANDJIRIS,® INC.**

5151 Northrup Ave., St. Louis, MO 63110

314-776-6893, fax: 314-776-8763

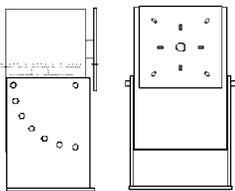
[www.pandjiris.com](http://www.pandjiris.com)

# POSITIONER SPECIFICATIONS

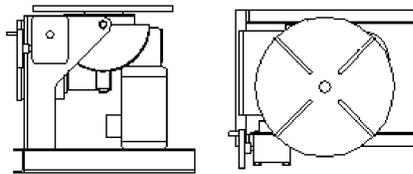
Model	Load Cap.	Load Ecc.	Table Diameter	Tilt Range	RPM	Electrical Requirements	Length	Width	Height	Approx. Shipping Weight
3.5-3	350 lbs.	3 in.	18 in.	0 - 135 * (3)	0.24 to 7.00	115V/1/60	25-1/4"	21-5/8"	21-1/2"	340 lbs.
Alpha 5-3	500 lbs.	3 in.	12 in.	0 - 90 (1)	0.27 to 6.70	115V/1/60	12-3/4"	15"	26-3/4"	250 lbs.
7.5-4	750 lbs.	4 in.	18 in.	0 - 135 * (3)	0.19 to 5.80	115V/1/60	28-1/4"	26-3/8"	28"	400 lbs.
Beta 12.5-5	1,250 lbs.	5 in.	24 in.	0 - 90 (1)	0.05 to 1.52	115V/1/60	15-5/8"	22-1/2"	40"	550 lbs.
15-4 AB	1,500 lbs.	4 in.	24 in.	0 - 135 (2)	0.08 to 1.60	115V/1/60	45-3/4"	30-1/4"	23-1/4" to 37-1/2"	750 lbs.
30-6 AB	3,000 lbs.	6 in.	30 in.	0 - 135	0.07 to 1.40	230/460/3/60	58-1/4"	39-1/4"	33" to 53"	1,750 lbs.
30-12 AB	3,000 lbs.	12 in.	42 in.	0 - 135	0.03 to 1.10	230/460/3/60	65"	48-1/8"	35-1/2" to 55-1/2"	2,400 lbs.
45-12 AB	4,500 lbs.	12 in.	48 in.	0 - 135	0.03 to 0.97	230/460/3/60	67-11/16"	54-3/16"	39" to 57"	3,000 lbs.
60-12 AB	6,000 lbs.	12 in.	48 in.	0 - 135	0.04 to 0.80	230/460/3/60	81-3/4"	57-5/8"	44" to 68"	4,500 lbs.
60-12 VPL	6,000 lbs.	12 in.	48 in.	0 - 135	0.04 to 0.80	230/460/3/60	81-3/4"	58"	54" to 78"	5,800 lbs.
100-12 AB	10,000 lbs.	12 in.	54 in.	0 - 135	0.025 to 0.75	230/460/3/60	98-3/4"	66"	48-1/8" to 78-1/8"	6,000 lbs.
100-12 VPL	10,000 lbs.	12 in.	54 in.	0 - 135	0.025 to 0.75	230/460/3/60	84-5/16"	66-3/8"	48-3/4" to 65-3/4"	6,000 lbs.
120-12 AB	12,000 lbs.	12 in.	54 in.	0 - 135	0.02 to 0.73	230/460/3/60	101-1/4"	69-1/2"	58-1/2" to 87-7/8"	6,500 lbs.
120-12 VPL	12,000 lbs.	12 in.	54 in.	0 - 135	0.02 to 0.73	230/460/3/60	101-1/4"	69-1/2"	58" to 78"	6,500 lbs.
200-12 AB	20,000 lbs.	12 in.	59-1/2 in.	0 - 135	0.18 to 0.54	230/460/3/60	110-1/2"	80"	58" to 88"	9,100 lbs.
200-12 VPL	20,000 lbs.	12 in.	59-1/2 in.	0 - 135	0.18 to 0.54	230/460/3/60	110-1/2"	80"	58" to 78"	9,100 lbs.
400-12 AB	40,000 lbs.	12 in.	84 in.	0 - 135	0.01 to 0.50	230/460/3/60	115"	100"	70" to 114"	15,500 lbs.
600-12 AB	60,000 lbs.	12 in.	96 in.	0 - 135	0.017 to 0.50	230/460/3/60	141"	120"	80" to 120"	19,000 lbs.

Models 15-4 through 60-12 available in either fixed base or adjustable base models. Specifications given are for the adjustable base models.

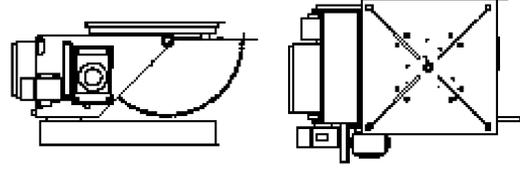
\* manual tilt standard; power tilt optional (1) pinned tilt positions; (2) fixed base model has manual tilt; (3) For TIG and plasma applications consult factory.



Alpha & Beta Models



Model 3.5-3 & 7.5



Model 15-4 through 600-12



# STANDARD POSITIONER LOAD CAPACITIES

## SELECTING THE APPROPRIATE SIZE POSITIONER

**1) Determine the dead weight of the part.**

**2) Consider the part configuration and determine its center of gravity.**

The center of gravity (CG) is easily found by simply lifting the part with a chain sling, dropping a plumb line from the lifting hook, and making a chalk line along this plumb line. Lift the part at a different location and again mark a line along the plumb line. The CG is where these two lines intersect. This can also be approximated as dead center at half the length of consistent or concentric parts such as pipe.

**3) Determine part eccentricity.**

Determine for your application the area(s) where the work piece will be affixed to the table. If grippers or other fixtures are used, include the weight and distance from the table of any fixture in your calculations. Measure the distance from the center of the positioner's table to the CG of the part (see diagram: Measurement B). When a work piece will be positioned more than one way on the table, use the position with the furthest distance of the

CG from the table and record this measurement.

**4) Determine positioner overhung load**

The overhung load is the measurement from the face plate out to the CG of the part (see diagram: Measurement A). Record this measurement.

With the above information: weight, overhung distance, and eccentricity; or a parts drawing with all the associated weights and where you intend to affix the part to the table, Pandjiris will be able to determine the appropriate size positioner.

Overhung load determines the tilt torque required to be able to lift and lower your parts. Pandjiris has provided the load chart below to assist you in selecting the appropriate size positioner. The chart has rated the tilt torque from the face plate to simplify the information you need for a reasonable decision.

Use the formulas in the next column to determine the total weight and equivalent distance. Then simply check the

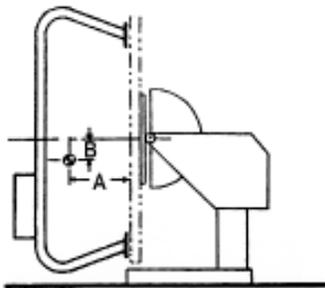
chart to see if your part is equal to or below the rating of a specific positioner.

$$\frac{W_1(d_1) + W_2(d_2)}{W_1 + W_2} = \text{Equivalent Distance from Faceplate}$$

$W_1 + W_2 = \text{Total Weight}$

$W_1 = \text{Weight of fixture or gripper}$   
 $d_1 = \text{Distance from face plate to CG of fixture}$   
 $W_2 = \text{Weight of part}$   
 $d_2 = \text{Distance from faceplate CG of part}$

Eccentricity of the load determines the rotational torque required. Pandjiris rates their positioners with standard measurements as a starting point. Most are rated at 12 inches, but smaller units often use smaller off-center measurements. Example: a 15-4 is measured 4" off center. This means the positioner handles 1,500 lbs. of dead load 4" from the rotation centerline and provides 6,000 in-lbs. of rotational torque. If you have a part that weighs 1,000 lbs. with an off-center load of 6", it will require 6,000 in-lbs. of rotational torque. If this figure is less than the positioner's rating, you will have sufficient rotational torque.



**A = Distance from face plate to CG of part (overhung load).**

**B = Distance from center line of table to center line of part (eccentric load).**

DIST FROM FACEPLATE (IN INCHES)	ALLOWABLE OVERHUNG LOADING CAPACITIES FOR STANDARD POSITIONERS, FROM FACEPLATE												
	3.5-3	ALPHA	7.5-4	15-4	30-6	30-12	45-12	60-12	100-12	120-12	200-12	400-12	600-12
3	350	500	750	1,500	3,000	3,000	4,500	6,000	10,000	12,000	20,000	40,000	60,000
4	296	437	750	1,500	3,000	3,000	4,500	6,000	10,000	12,000	20,000	40,000	60,000
5	257	387	667	1,333	3,000	3,000	4,500	6,000	10,000	12,000	20,000	40,000	60,000
6	226	348	600	1,200	3,000	3,000	4,500	6,000	10,000	12,000	20,000	40,000	60,000
8	183	289	500	1,000	2,564	3,000	4,500	6,000	10,000	12,000	20,000	40,000	60,000
10	154	248	429	857	2,238	3,000	4,500	6,000	10,000	12,000	20,000	40,000	60,000
12	133	217	375	750	1,986	3,000	4,500	6,000	10,000	12,000	20,000	40,000	60,000
18	94	157	273	545	1,484	2,254	3,420	4,615	7,703	9,321	15,556	33,191	46,154
24	73	123	214	429	1,185	1,805	2,758	3,750	6,265	7,620	12,727	28,364	37,500
30	59	101	176	353	986	1,505	2,310	3,158	5,279	6,444	10,769	24,762	31,579
36	50	86	150	300	844	1,291	1,988	2,727	4,561	5,582	9,333	21,972	27,273
42	43	75	130	261	738	1,130	1,744	2,400	4,015	4,924	8,235	19,747	24,000
48	38	66	115	231	656	1,005	1,554	2,143	3,586	4,404	7,386	17,931	21,429
54			103	207	590	904	1,401	1,935	3,239	3,984	6,667	16,421	19,355
60			94	188	536	822	1,276	1,765	2,954	3,637	6,087	15,146	17,647
66			86	171	491	754	1,171	1,622	2,715	3,346	5,600	14,054	16,216
72			79	158	453	696	1,082	1,500	2,512	3,097	5,185	13,109	15,000
78				146	421	646	1,005	1,395	2,337	2,883	4,828	12,283	13,953
84				136	393	603	939	1,304	2,185	2,697	4,516	11,556	13,043
90				128	368	566	881	1,224	2,051	2,534	4,242	10,909	12,245
96				120	346	532	830	1,154	1,933	2,389	4,000	10,331	11,538
102				113	327	503	784	1,091	1,827	2,259	3,784	9,811	10,909
108				107	310	478	743	1,034	1,733	2,143	3,590	9,341	10,345
114				102	294	456	706	984	1,648	2,039	3,415	8,914	9,836
120				97	280	431	673	938	1,571	1,944	3,256	8,525	9,375
132				88	256	394	615	857	1,436	1,778	2,979	7,839	8,571
138				85	245	377	589	822	1,377	1,706	2,857	7,536	8,219
144				81	235	362	566	789	1,323	1,639	2,745	7,256	7,895

# POSITIONER STANDARD FEATURES

## STANDARD FEATURES

A heavy duty integral tilt gear and king pin housing forms the heart of Pandjiris positioners...assuring smooth turning and tilting. Heavy duty bearings are totally enclosed in a mounting design that will withstand rated thrust and moment loadings.

The king pin utilized by Pandjiris on Model 15-4 and up is manufactured of steel, precision machined and fitted with heavy duty tapered roller bearings. These provide a safe and rigid table rotation.

An all solid plate steel blank is utilized for all Pandjiris bull gears. These gears are precision hobbled with high strength 20 degree involute teeth. The table bolts directly to the bull gear for rigid assembly of various table sizes.

Additional standard features include:

- Adjustable or fixed [models MVRMT (AB) or MVRMT (FB)] based units available. Adjustable models allow the operator an easy height adjustment of the table to clear the positioner's legs and/or the floor.
- Ball bearing motors-totally enclosed fan cooled.
- Tilt motors are spring activated upon electrical de-activation AC brake motors.
- Worm gear reducers for smooth operation under heavy loads.
- Totally enclosed housings sealed against dirt and dust.
- An all steel welded frame construction.
- All standard units have 360 degrees of rotation.
- Most cantilevered models incorporate 135 degrees of tilt (see specs).

## CONTROLS

- Solid state controls with dynamic braking on the rotation drive.
- Durable high impact plastic hand pendant controls attached to heavy duty rubber covered cable. Pendant controls forward, stop and reverse as well as rotation speed adjustment and fast speed.
- All pendants are amphenol plug type, field installable and interchangeable.
- Controls operate on 115 volts or 230/460 volts and all wiring is performed to National Electrical Codes.
- All units are high frequency protected.



# POSITIONER OPTIONS

**Available options:**

- Fast/slow footswitch
- Forward/stop/reverse footswitch
- Dial Weld
- Digital tachometer
- Tach feedback
- Welding grounds
- Protractors
- Custom tables
- Different sized pilot holes
- Power elevation
- Riser pads
- Grippers
- Anti-backlash gearing
- Companion tailstocks
- Outboard support stands
- Multiple speed choices
- Indexing
- Constant speed rotation
- Rail mounted positioners, manual or powered
- Casters mounted for V-rail or smooth floor mobility
- Gas bag pan for inert welding applications



*Fast/Slow Footswitch*



*Forward/Stop/Reverse Footswitch*



*Dialweld™*



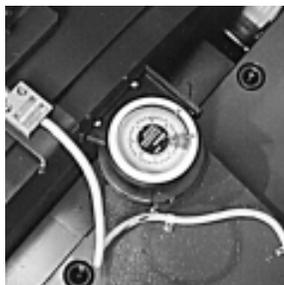
*Tachometer*



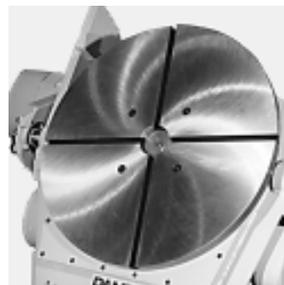
*Tach Feedback*



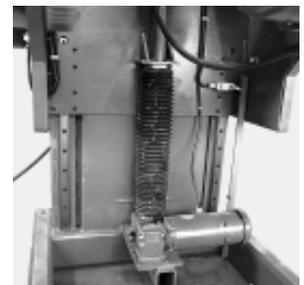
*Spring Loaded Copper Grounds*



*Tilt Protractor & Limit Switch*



*Machined Table*



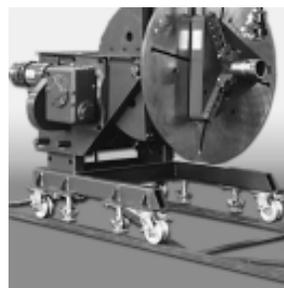
*Power Elevation*



*Companion Tailstock/Special Support Stand*



*Outboard Support Stand*



*Casters & Floor Locks*



*Seal Pan for Gas Bag*

# PANDJIRIS® QUICKSET GRIPPERS

## Features:

- Self-centering
- Can't be clogged by splatter and steel chips
- Quick-change reversible jaws

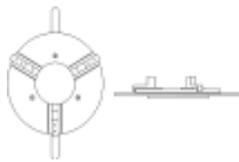
## Benefits:

- Easy change out of workpieces
- Safety device prevents gripper from being overtorqued on Model TJ-20 and larger

## Available Options:

- Hardened, serrated jaws for maximum gripping capacity
- Circular, knurled jaws for rectangular, oval, and odd-shaped workpieces
- Extended length jaws
- Light gauge jaws
- Grippers to handle heavier weights are available

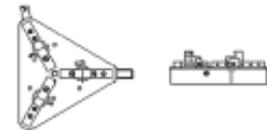
Model	Clamping Range	Wt. Capacity	Allowable Overhang	Length	Width	Height	Recommended Positioner
J-11	1-1/2" to 11"	100 lb.	1"	7-7/8"	4"	1-3/4"	3.5-3 only
J-15	1-1/2" to 15"	100 lb.	1"	9-1/2"	6"	2-3/8"	3.5-3 only
J-20	3-1/2" to 20"	100 lb.	1"	12"	8"	2-3/8"	3.5-3 only
TJ-20	1" to 20"	1,000 lb.	5"	10-1/4"	9"	6-7/16"	7.5-4 thru 15-4
A	1-1/2" to 31-1/4"	3,000 lb.	5"	15-1/2"	15-1/8"	7-3/16"	15-4 thru 30-12
B	1-1/2" to 44-3/8"	3,000 lb.	5"	22"	20-7/16"	7-3/16"	15-4 thru 30-12
B-60	1-1/2" to 68"	3,000 lb.	5"	29-13/16"	20-7/16"	7-3/16"	15-4 thru 30-12
C-48	3" to 52"	7,500 lb.	5"	26-1/8"	24-7/8"	9-1/2"	30-12 thru 60-12
C-60	3" to 68"	7,500 lb.	5"	32-1/8"	24-7/8"	9-1/2"	30-12 thru 60-12



J-Series Grippers



T-J 20 Gripper



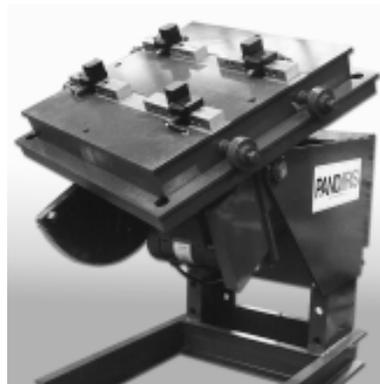
Models A through C



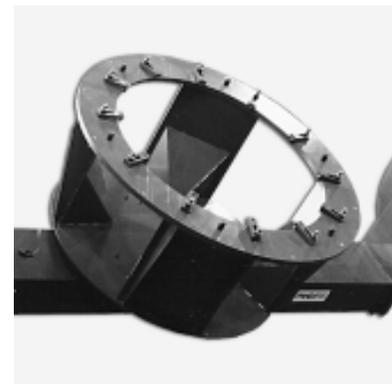
## CUSTOM FIXTURING



Variable speed slide table and special gripper to hold oval boxes



Special Gripper for Rectangular Boxes



Special Fixturing Provides for Welder Access into Hip Cab Interior.

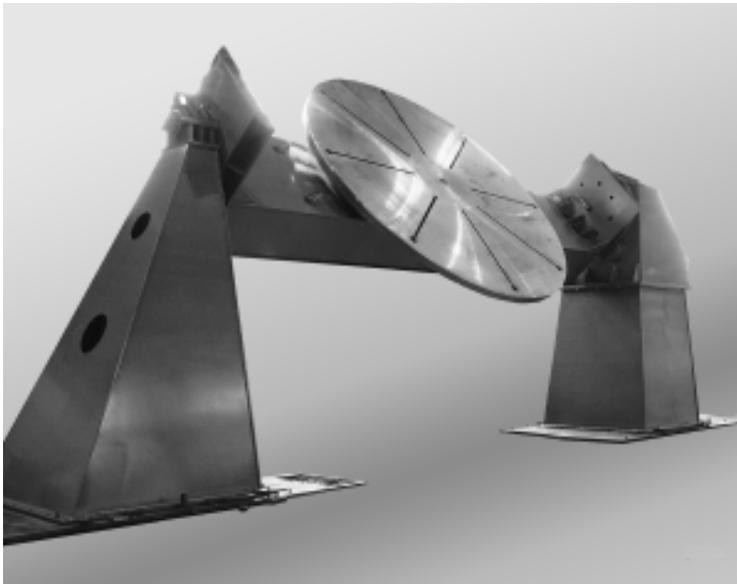
# CUSTOM POSITIONERS



*Servo Positioner with precision linear base and precision machined table*



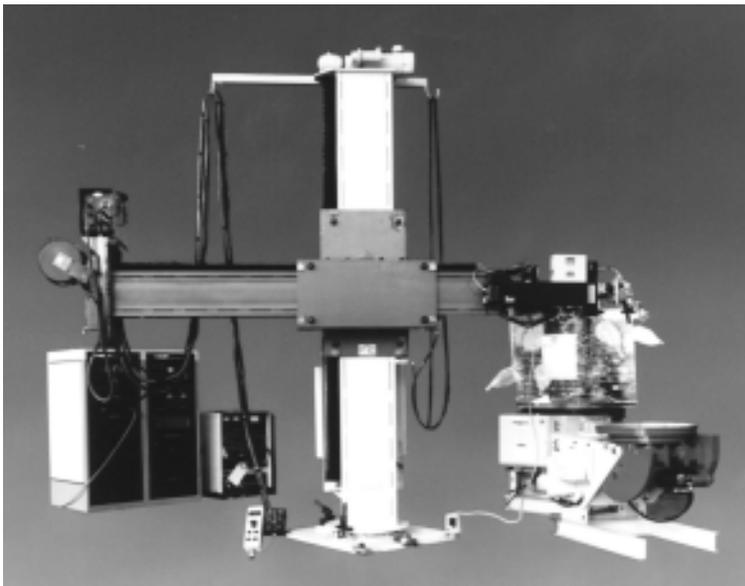
*Sky Hook Positioner with Diamond Drill Bit for Well Drilling*



*70,000 Lb. Drop Center Positioner with 2 Axes of Rotation*



*30-6 Gas Bag Positioner Designed for Inert Atmosphere Welding of Jet Engine Components.*

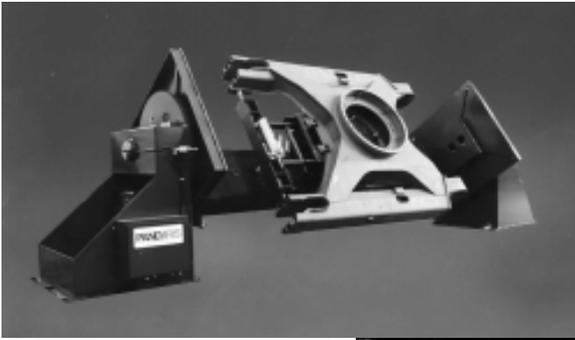


*Precision Work Cell with VPPAW Welding for Aerospace Applications*



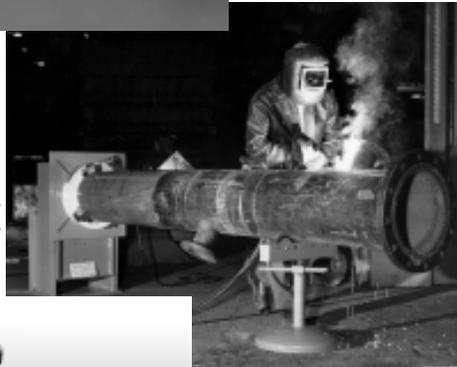
*Precision dabber system for aeronautics industry.*

# POSITIONERS AT WORK

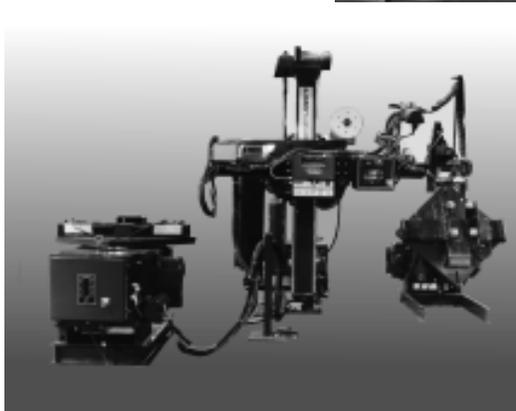


*Drop Center Positioner with Two Axes of Rotation*

*Elliptical Welding System with PLC Multi-Axis Controller*



*Pipe Shop Applications*



*Fully Integrated Multi-Station Automated Production Cell*

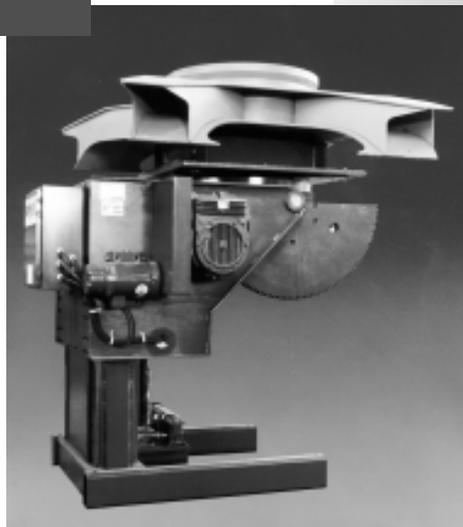


*Railroad Car Positioner*

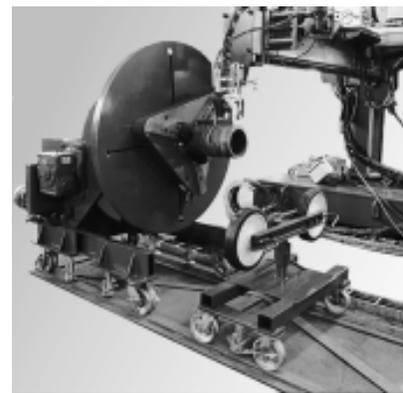
## HOW TO CONTACT US

To discuss your application with one of our experienced application engineers, you can contact us several different ways:

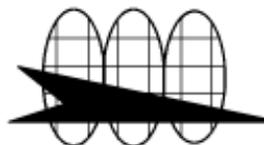
1. Contact a Pandjiris local rep or distributor.
2. Call Pandjiris at **314-776-6893** and ask for new equipment sales.
3. Fax an inquiry to **314-776-8763**.
4. Mail an inquiry to:  
**Pandjiris, Inc.**  
**5151 Northrup Ave.**  
**St. Louis, MO 63110**
5. Visit our web site:  
**www.pandjiris.com**



*Power Elevating Positioner*



*Part of pipe welding system for submarine retrofit facility.*



**PANDJIRIS,® INC.**

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