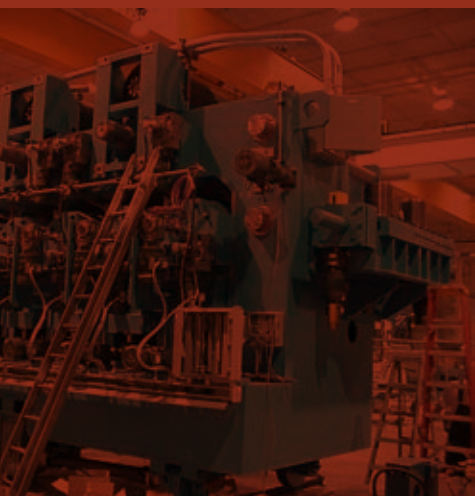




## PROVIDING SOLUTIONS

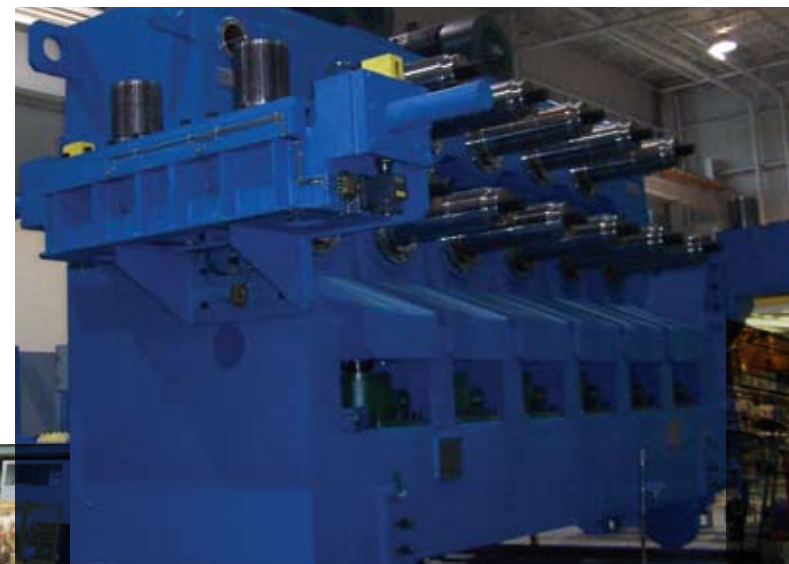
WHEN IT COMES TO STEEL AND NON-FERROUS MILL FINISHING EQUIPMENT AND SOLUTIONS, THE BRONX/TAYLOR-WILSON NAMEPLATE SAYS IT ALL. THE WORLD'S LEADING PRODUCERS HAVE RELIED ON BRONX TO CREATE EFFICIENCY AND MAXIMIZE THEIR FINISHING PRODUCTION TO CREATE A COMPETITIVE ADVANTAGE IN THE GLOBAL MARKETPLACE. THE BRONX KNOW-HOW AND TRADITION OF DEVELOPING CUSTOMIZED SOLUTIONS ENSURES THAT YOU GET WHAT YOU NEED, WHEN YOU NEED IT. AS A GLOBAL RESOURCE, YOU CAN COUNT ON THE BRONX TEAM OF ENGINEERS, SALES ASSOCIATES AND SUPPORT STAFF TO MEET AND EXCEED YOUR EXPECTATIONS FROM INITIAL SPECIFICATIONS THROUGH INSTALLATION AND BEYOND. AT BRONX/TAYLOR-WILSON, WE DON'T WANT TO JUST SELL YOU A PIECE OF EQUIPMENT, WE WANT TO DEVELOP A LASTING PARTNERSHIP.



**SECTION STRAIGHTENING: APPLICATION SPECIFIC**  
Bronx/Taylor-Wilson HAS PRODUCED AND SOLD OVER 800 STRAIGHTENING MACHINES IN MORE THAN 50 COUNTRIES. WE OFFER THE BROADEST RANGE OF HIGH-PERFORMANCE SECTION STRAIGHTENERS THAT ARE AVAILABLE TODAY. THE VARIOUS TYPES OF SECTION STRAIGHTENERS INCLUDE: FIXED CENTER, VARIABLE CENTER, MULTI-STRAND, TWO PLANE AND BETWEEN HOUSING. THIS ENCOMPASSES THE WIDEST RANGE OF FERROUS AND NONFERROUS SECTIONS THAT BRONX MACHINES CAN STRAIGHTEN WITH ACCURACY AND EFFICIENCY.

## SUPERIOR DESIGN

OUR BROAD RANGE OF HIGH PERFORMANCE SECTION STRAIGHTENERS ARE ENGINEERED TO ROLLING MILL STANDARDS, THESE MACHINES HAVE A HEAVY FABRICATED STEEL MAIN FRAME AND CAN BE BUILT TO PROVIDE SINGLE, TWO, THREE OR VARIABLE OPERATIONAL SPEEDS TO SUIT INDIVIDUAL REQUIREMENTS. COMMON AMONG ALL DESIGNS, THE TOP ROLLS ARE DRIVEN WITH THE TOP WORK ROLL SHAFTS HAVING THE OPTION OF MOTORIZED OR MANUAL ADJUSTMENT.



**VARIABLE CENTER STRAIGHTENERS**  
LARGE ROLLER-TYPE STRAIGHTENING MACHINES WITH VARIABLE ROLL CENTERS ARE USED IN STRAIGHTENING A WIDER RANGE OF SECTIONS THAN WOULD BE POSSIBLE WITH A MACHINE HAVING FIXED CENTERS. AS AN EXAMPLE, OUR 11/18 HAS CENTERS VARIABLE BETWEEN 45" TO 70" (1,140 TO 1,780 MM) AND IS USED TO STRAIGHTEN VARIOUS ROLLED STEEL SECTIONS FROM 6" x 6" (150 x 150 MM) ANGLES UP TO VERY HEAVY SHEET PILES AND LARGE BEAMS.

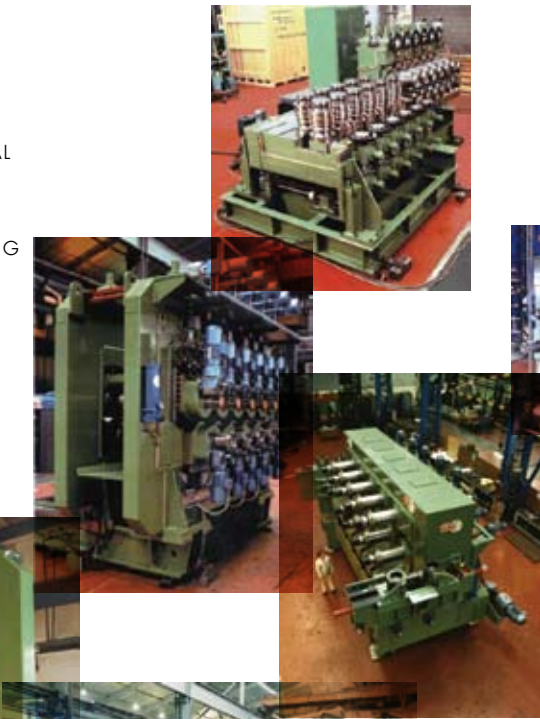
## MULTI-STRAND STRAIGHTENERS

BTW PRECISION SECTION STRAIGHTENING MACHINES ARE USED WORLDWIDE, GIVING HIGH STANDARDS OF STRAIGHTNESS AND SURFACE FINISH AND CONTROLLED SURFACE HARDNESS. WHERE SECTIONS ARE STRAIGHTENED IN LINE, IMMEDIATELY FOLLOWING THE ROLLING MILL COOLING BED, MULTI-STRAND STRAIGHTENING OFTEN NEEDS TO BE UTILIZED TO KEEP PACE WITH THE OUTPUT OF THE ROLLING MILL. MULTI-STRAND STRAIGHTENING WAS INITIALLY CARRIED OUT USING CANTILEVERED ROLL SHAFT TYPE MACHINES. HOWEVER, TO IMPROVE RIGIDITY AND TO ENSURE THAT EQUAL WORK WAS CARRIED OUT ON ALL SECTIONS, THE BETWEEN-HOUSINGS DESIGN MACHINE WAS UTILIZED, INCORPORATING QUICK ROLL CHANGING. DEPENDING ON PRODUCTIVITY REQUIREMENTS, THE STRAIGHTENING MACHINE MAY BE EITHER WIDE BODIED AND SLOW RUNNING OR NARROW BODIED AND RELATIVELY FAST RUNNING.



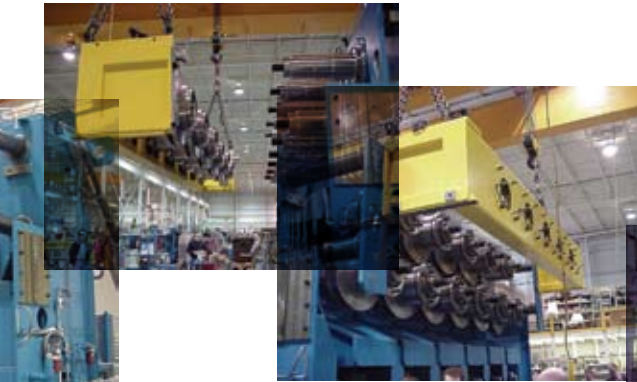
## TWO PLANE & BETWEEN HOUSING MACHINES

THE TWO PLANE MACHINES ARE OFTEN USED FOR STRAIGHTENING ROUND, SQUARE AND HEXAGONAL MATERIAL THAT ENABLES THE SECTIONS TO BE STRAIGHTENED ON TWO PLANES IN ONE PASS. THE BETWEEN-HOUSING DESIGN FOR STRAIGHTENING OF SQUARE AND ROUND BILLETS PROVIDES EXTRA RIGIDITY WHEN LONG RUNS OF SIMILAR PROFILE MATERIALS ARE IN DEMAND. THE ROLLS ARE MOUNTED BETWEEN THE HOUSINGS, WHICH ENABLES THE MACHINE TO HAVE SHORTER ROLL CENTERS AND THEREFORE, HANDLE A LARGER RANGE OF SECTIONS THAN WOULD NORMALLY BE POSSIBLE. THESE MACHINES HAVE BEEN SPECIFICALLY DESIGNED FOR THE STRAIGHTENING OF BILLETS IN STEEL MILLS.



## QUICK CHANGE TECHNOLOGY

IN AN EFFORT TO MAXIMIZE EFFICIENCY AND MINIMIZE DOWNTIME, BRONX/TAYLOR-WILSON DESIGNED A ROLL CHANGE SYSTEM THAT ALLOWS FOR AN ENTIRE SET OF 11 STRAIGHTENER ROLLS TO BE CHANGED IN LESS THAN TWO HOURS. THIS INNOVATIVE CASSETTE ROLL CHANGE SYSTEM ALLOWS ANY NUMBER OF STRAIGHTENER ROLLS TO BE REMOVED BY ONE CASSETTE ASSEMBLY. A SECOND CASSETTE ASSEMBLY IS PRE-LOADED WITH ROLLS TO CONFORM TO THE UPCOMING PRODUCT RUN, ALLOWING THE STRAIGHTENER TO BE CHANGED OVER IN LESS TIME THAN THE MILL, REDUCING POTENTIAL DOWNTIME BETWEEN PRODUCT SIZE CHANGES ON THE MILL.



## TECHNICAL ADVANTAGE

WE WERE FIRST TO DEVELOP AND PATENT A COMPUTER AIDED SETTING SYSTEM, THE COMPASS SYSTEM, TO AUTOMATICALLY COMPUTE THE OPTIMUM ROLL SETTINGS AND ADJUST THE ROLLS TO THE PROPER POSITION. THIS FEATURE ENABLES SECTION SIZE CHANGES TO BE ACCOMPLISHED IN APPROXIMATELY TWO MINUTES. IN ADDITION, THE COMPASS SYSTEM INCORPORATES A MACHINE MANAGEMENT SYSTEM.

	RS1	RS1.5	RS2	RS3	RS3.5	RS4	RS5	RS6	RS7	RS8
● Min (MM)	6	10	11	12.5	16	16	20	28	38	45
● Max (MM)	20	40	45	48	60	67	75	95	120	150
◆ Min (MM)	6	10	11	12.5	16	16	20	28	38	45
◆ Max (MM)	19	35	42	45	57.5	63	73	85	110	140
● Min (MM)	6	10	11	12.5	16	16	20	28	38	45
● Max (MM)	20	40	45	48	60	70	75	95	120	140
◆ Min (MM)	10x2	19x5	20x4	25x5	32x6	32x8	38x10	41x12.5	63x12.5	75x12.5
◆ Max (MM)	40x6	50x12.5	65x12	75x12.5	90x19	100x19	125x25	150x32	200x32	255x38
	50x40	63x10	70x10	63x16	75x25	95x25	108x32	133x38	178x38	200x50
>> Min (MM)	20x20x3	20x20x3	20x20x3	25x25x3	25x25x3	25x25x4	35x35x4	40x40x6	65x65x6	75x75x6
>> Max (MM)	30x30x5	65x65x9	75x75x9	75x75x12	90x90x12	100x100x16	130x130x16	150x150x18	150x150x20	150x150x20
⊥ Min (MM)	20x20x3	25x25x3.5	20x20x3	25x25x3.5	30x30x4	35x35x4.5	40x40x5	50x50x6	60x60x7	70x70x8
⊥ Max (MM)	30x30x4	70x70x8	80x80x9	80x80x9	100x100x11	125x125x12	140x140x15	140x140x15	140x140x15	140x140x15
⌋ Min (MM)	-	30x15	50x25	60x30	60x30	60x30	80x45	80x45	100x50	100x50
⌋ Max (MM)	30x15	60x30	65x42	100x50	120x55	160x65	240x85	350x100	400x100	-
⌈ Min (MM)	-	-	80x42	80x42	80x42	80x42	80x42	80x42	120x63	160x82
⌈ Max (MM)	-	80x42	80x46	100x50	100x50	120x58	160x74	200x90	300x125	425x165
ROLL CENTERS (MM)	120	250	275	305	330	355	455	535	760	990
ROLL DIAMETER (MM)	115	245	265	265	300	340	405	450	610	785
MOTOR (HP)	5	20	25	25	30	35	65	80	120	180

The above capabilities are valid only for mild steel with a yield strength not exceeding 32 Kg/mm2. Alternative capacities for sections not given will be supplied upon request. In the interest of continuous product improvement, BTW reserves the right to change the specification of design of any of its products without prior notice.

## CASE STUDY: GERDAU AMERISTEEL

### OBJECTIVE:

WHEN GERDAU AMERISTEEL WAS LOOKING TO UPGRADE ITS SECTION STRAIGHTENING CAPABILITIES, IT FOUND A SOLUTION WITH BRONX/TAYLOR-WILSON.

### SOLUTION:

BTW WAS ABLE TO OFFER AN 11-ROLL MACHINE THAT PROVIDED HIGHER QUALITY RESULTS AT FASTER SPEEDS THAN THE 7-ROLL MODEL THAT WAS IN OPERATION PRIOR.

THE BTW 11-ROLL MACHINE IS CAPABLE OF STRAIGHTENING AT SPEEDS UP TO 1,000 FEET PER MINUTE, WHICH IS REQUIRED IN ORDER TO KEEP UP WITH THE ROLLING MILL. THIS SPEED IS ACCOMPLISHED WITHOUT SACRIFICING THE REQUIRED STRAIGHTNESS OF .025" IN 40' CAMBER (1 IN 1,920) AND A .05" IN 40I SWEEP (1 IN 960). THE NEW BTW MACHINE IS ALSO TWICE THE SIZE OF THE PREVIOUS 7-ROLL MACHINE.

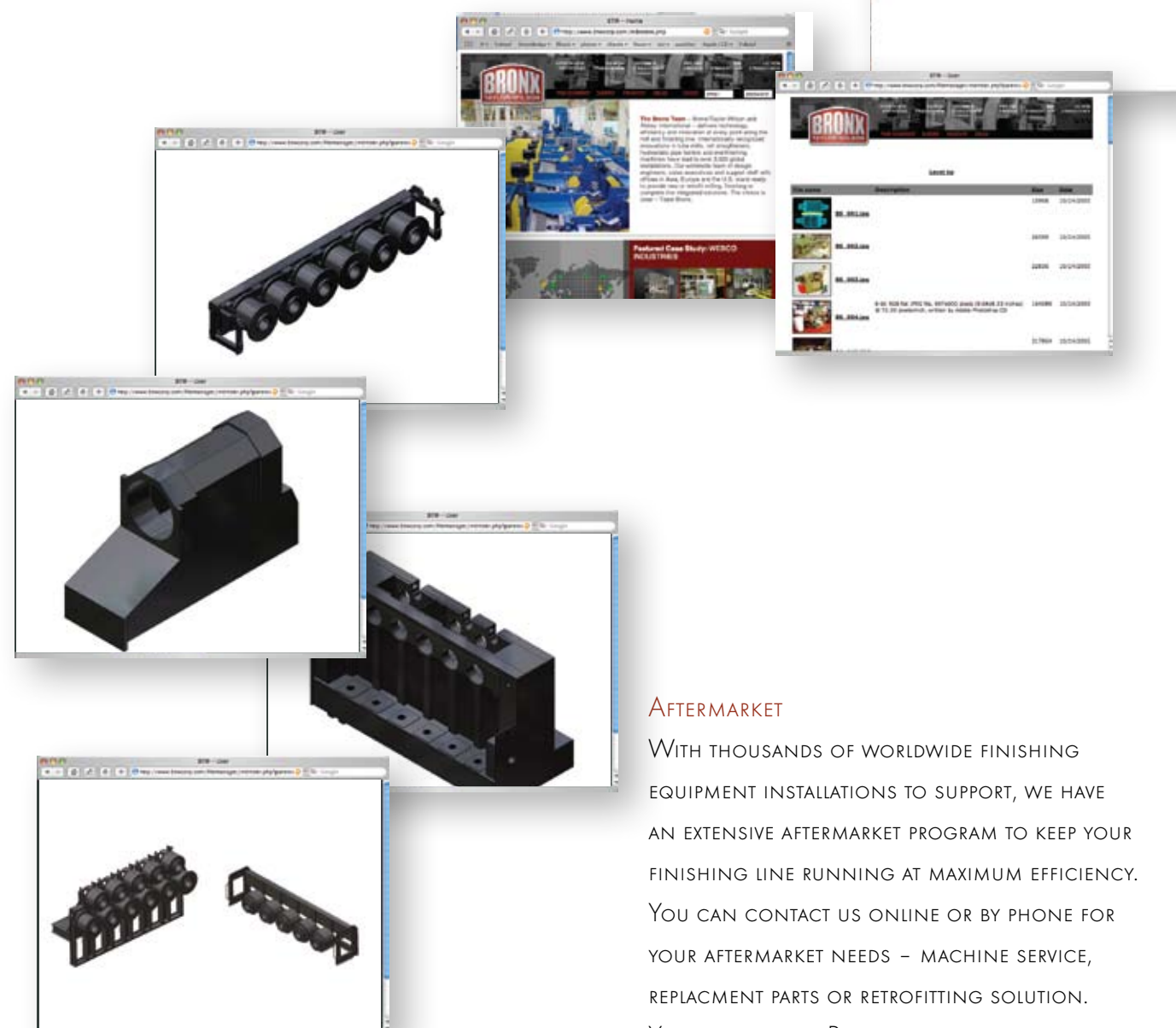
BTW DESIGNED THE NEW MACHINE FOR GERDAU AMERISTEEL SO THAT THE DRIVE GEAR BOXES WOULD BE SITUATED ON THE TOP OF THE MACHINE.

FURTHER, BTW HAD TO CONTEND WITH THE ISSUE OF THE SCALE THAT WAS BEING GENERATED FROM THE ROLLED PRODUCT. GETTING BEHIND THE MACHINE TO CLEAN AWAY THE SCALE WAS NOT POSSIBLE. THE BTW MACHINE SITS ON A TRANSVERSE CARRIAGE WHICH ENABLES THE MAINTENANCE CREW TO ROLL THE MACHINE IN AND OUT OF THE AREA TO CLEAN AWAY THE SCALE. THE IN-LINE PROCESS WITH THE MILL RESULTS IN MINIMAL DOWNTIME FOR THE STRAIGHTENER DURING ROLL CHANGE. THE BTW MACHINE IS EQUIPPED WITH A ROLL CHANGE JIG SYSTEM. THE SYSTEM WAS CUSTOM BUILT TO THE MILL LAYOUT TO ACCOMMODATE USAGE OF THE OVERHEAD CRANE SYSTEM. TWO MEN ARE ABLE TO CHANGE THE ROLLS IN THE ONE HOUR ALLOWABLE TIME FRAME.

GERDAU AMERISTEEL HAS BEEN UTILIZING ITS NEW BTW EQUIPMENT FOR OVER ONE YEAR, AND IS PROCESSING SECTIONS ABOVE AND BEYOND THE QUALITY AND PRODUCTION STANDARDS THAT WERE SET IN THE MACHINE CONTRACT.

## ONLINE PROJECT MANAGEMENT

WE'VE CREATED A PASSWORD-PROTECTED, SECURE PARTNER LOG-IN AREA ON OUR SITE AT [WWW.BTWCORP.COM](http://WWW.BTWCORP.COM), TO HELP US SHARE FILES AND INFORMATION WITH TEAM MEMBERS ON THE PROJECTS THAT WE HAVE IN PLAY ALL AROUND THE WORLD. SO REGARDLESS OF YOUR LOCATION, YOU'LL HAVE THE ABILITY TO STAY CURRENT ON A PROJECT - TRACKING REVISIONS, ADDITIONS OR SPECIFICATIONS VIA THE BRONX ONLINE MANAGEMENT TOOL ON THE WEB.



### AFTERMARKET

WITH THOUSANDS OF WORLDWIDE FINISHING EQUIPMENT INSTALLATIONS TO SUPPORT, WE HAVE AN EXTENSIVE AFTERMARKET PROGRAM TO KEEP YOUR FINISHING LINE RUNNING AT MAXIMUM EFFICIENCY. YOU CAN CONTACT US ONLINE OR BY PHONE FOR YOUR AFTERMARKET NEEDS - MACHINE SERVICE, REPLACEMENT PARTS OR RETROFITTING SOLUTION. YOU CAN RELY ON BRONX TO BE YOUR RESOURCE.



SECTION STRAIGHTENERS

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