

## CGM COLD CUTTING & BEVELING MACHINE (PNEUMATIC AND HYDRAULIC)

### HYDRAULIC CGM P COLD CUTTING MACHINE

The Mathey Dearman CGM chain-driven cold cutting system smoothly cuts and bevels tough to machine materials including carbon steel, stainless steel, ductile iron, cast iron and other alloys without sparks or flames. The ruggedly powerful CGM is ideal for construction, fabrication, tear down or removal of components for replacement; simultaneously cutting and beveling both sides of a cut and eliminating the need for second cuts.

The CGM features a heavy-duty chain tensioning mechanism encased in a high strength alloy frame, creating an extremely rigid mechanical structure to stabilize the cutting blades. With virtually no frame flex, our CGM cold-cutting machines produce precision-machined surfaces even at faster travel speeds. Six different wheel positions allow the CGM to perform well on a wide range of pipe diameters.

The CGM's heavy-duty two-speed drive gearbox allows you to precisely match the machine travel speed to each material and wall-thickness, and is designed for years of sustained cutting operation. No out-of-round compensation is necessary as the CGM exactly follows the outside pipe diameter, producing consistent, even cuts. Drive chain length can be adjusted to accommodate 6" to 72" (152 – 1829 mm) diameter pipe or vessels.

For maximum efficiency, blade changes can be made without removing the machine from the pipe or vessel.

Both right and left beveling blades are available in 30 degree, 37 ½ degree, "U" Joint, and "J" Prep configurations. The CGM routinely delivers cuts that are machine-like in appearance within a tolerance of .010" (.3 mm) on pipe as large as 40" in diameter. Optional Guide Tracks and grooved wheels are available for cutting vertical pipe.

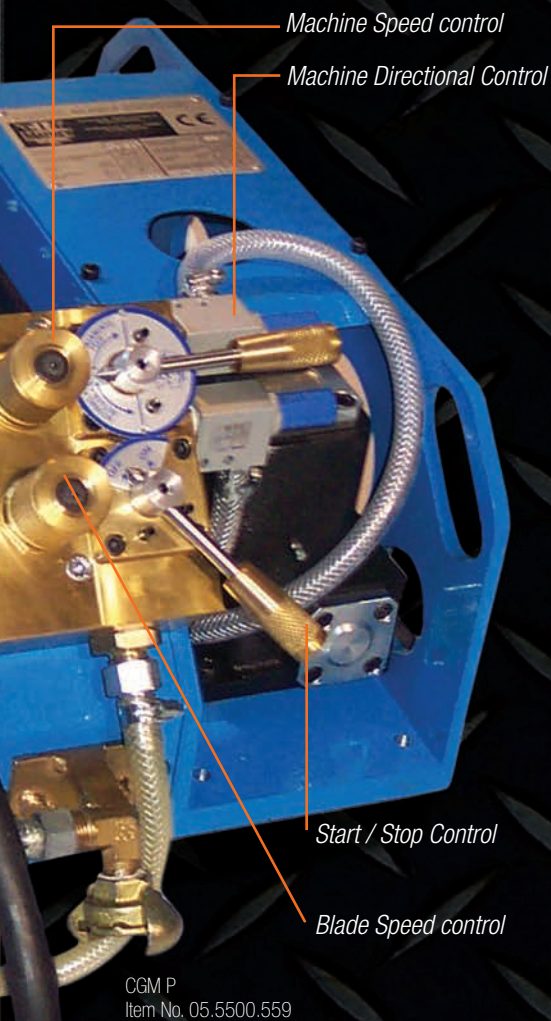
Blade Height Adjustment Handle

Heavy-duty Chain Tensioning Mechanism

Double Mist Lubrication System

Model	Item Number	Est. Shipping Weight
CGM P - Pneumatic Chain Drive Cold Cutting Machine with Blade Shut-Off Device. Cutting Range: 6" - 72" / 152 - 1829 mm	05.5500.557	476 lbs / 216 kg
CGM P - Pneumatic Chain Drive Cold Cutting Machine with Blade Shut-Off Device for Corrosive Environment. Cutting Range: 6" - 72" / 152 - 1829 mm	05.0550.559-COR	476 lbs / 216 kg
CGM H - Hydraulic Chain Drive Cold Cutting Machine with Blade Shut-Off Device. Cutting Range: 6" - 72" / 152 - 1829 mm	05.0550.560	492 lbs / 223 kg
CGM H - Hydraulic Chain Drive Cold Cutting Machine with Blade Shut-Off Device for Corrosive Environment. Cutting Range: 6" - 72" / 152 - 1829 mm	05.0550.560-COR	492 lbs / 223 kg





CGM P  
Item No. 05.5500.559

## HYDRAULIC CGM COLD CUTTING MACHINE

The Hydraulic CGM is specifically designed for continuous cutting of heavier wall alloy pipes, delivering consistent power to the cutting and beveling blades and drive motor.

The CGM H cuts material up to 1 ½" (38 mm) thick in one pass, depending on material hardness. The closed-loop hydraulic system ensures proper lubrication to the blade and drive motors.

Rugged and strong, the CGM H features dual hydraulic motors. A 5.4 HP (4 KW) hydraulic motor coupled to a heavy-duty transmission rotates the cutting blades at speeds up to 80 RPM while a 1.3 HP (1 KW) hydraulic motor connected to a two-speed transmission moves the CGM H around the pipe at speeds up to 1.52 in/min (38.6 mm/min).

The CGM is capable of cutting diagonal and vertical pipes when used with optional Guide Track and grooved wheels.



Multiple wheel locations allow the CGM to cut and bevel pipe from 6" to 72" (152-1829 mm)



**RUGGED STEEL STORAGE BOX:** Our CGM Heavy-Duty Storage Box has plenty of room for your CGM and accessories and is sturdy enough for the lid to function as a machine maintenance work-surface.





## CGM COLD CUTTING & BEVELING MACHINE (PNEUMATIC AND HYDRAULIC)

### PNEUMATIC CGM P COLD CUTTING MACHINE

The Pneumatic CGM P is excellent for shop or field use and is perfect for cold-cutting pipes in explosive environments such as refineries or pipelines conveying natural gas, crude oil or crude oil by-products.

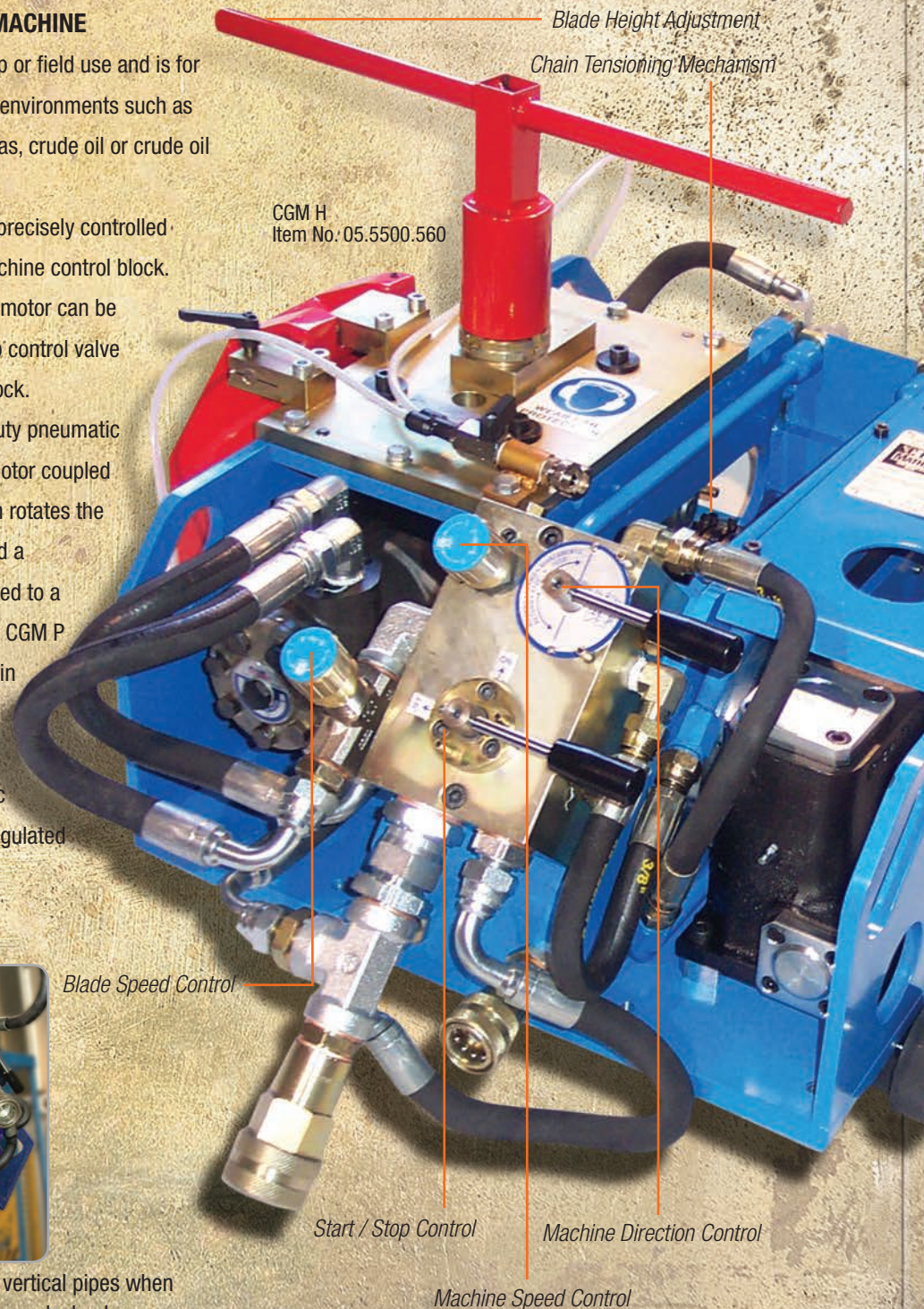
Machine travel speed and blade RPM are precisely controlled by two metering valves located on the machine control block.

Airflow to the blade motor and main drive motor can be simultaneously shut-off with the start/stop control valve located on the lower part of the control block.

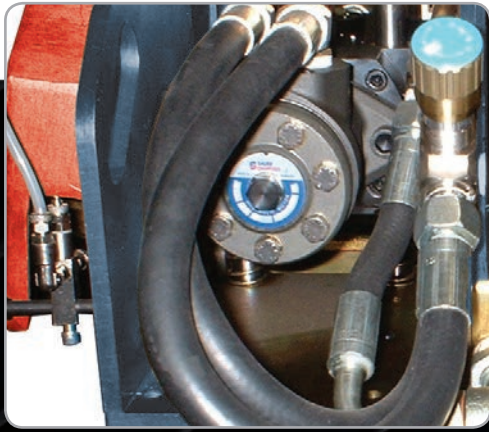
The CGM P features two reliable, heavy-duty pneumatic motors, a 3.79 HP (2.91 KW) pneumatic motor coupled to an extra heavy-duty transmission which rotates the cutting blades at speeds up to 80 RPM and a .75 HP (.56 KW) pneumatic motor connected to a two-speed drive transmission to move the CGM P around the pipe at speeds up to 1.52 in/min (38.6 mm/min). For maximum cutting capacity, the CGM P requires an air compressor delivering 120psi at 142 cubic ft/min (8 bar at 4000 l/min). Pressure is regulated to 6 bar via a regulator on the filter block.



The CGM can handle cutting diagonal and vertical pipes when used with our Optional Guide Track and grooved wheels.







Consistent hydraulic or pneumatic force, applied to the motors, insures constant blade and machine speed, producing a cut machine-like in appearance.



\* Special wheels required for 6" pipe.

\*\* Guides Tracks and grooved wheels required to cut or bevel when pipe.

\*\*\* Single pass cutting depth. Special beveling blades required. When cutting at maximum

depth cutting time is increased

\*\*\*\* Blade spacer -(see chart next page.)

## CGM COLD CUTTING AND BEVELING MACHINE | SPECIFICATIONS

Specifications	
Cutting Range on Horizontal Pipe.	6"– 72" / 152 mm – 1829 mm
Cutting Range on Vertical Pipe.	6"– 72" / 152 mm - 1829 mm
Maximum Cutting Depth of 45,000 psi Tensile Strength with 37 1/2° Bevel Angle.	Pneumatic – 1 1/4" / 31.8 mm***
	Hydraulic – 1 1/2" / 38 mm***
Maximum Cutting Depth of 70,000 PSI Tensile Strength with Severing Blade Only. ****	Pneumatic – 1 1/4" / 31.8 mm
	Hydraulic – 1 1/2" / 38 mm
Cutter Motor	Pneumatic – 3.79 HP / 2.91 KW
	Hydraulic – 5.4 HP / 4 KW motor connected to a Worm Drive Transmission
Cutter Speed	Pneumatic – 71 RPM
	Hydraulic – 76 RPM
Drive Motor	Pneumatic - .75 HP / .56 KW Motor coupled to a heavy-duty 2-speed Transmission
	Hydraulic - 1.3 HP / 1 KW Motor coupled to a heavy-duty 2-speed Transmission
Maximum Forward Speed	Pneumatic – 0 to 1-1/2" / 38 mm per minute
	Hydraulic – 0 to 2 9/16" / 65 mm per minute
Feed Method	Positive Non-slip 4-row Chain Drive
Minimum Air Supply Requirement	90 psi at 142 Cubic Feet per Minute
	6.2 bar at 4,000 Liter per Minute
Minimum Hydraulic Supply Requirement	1420 psi at 20 gallons per minute / 100 bar at 72 liters
Controls	Main Control Valve shuts off Air or Hydraulic Pressure to CGM. Valve is interlocked to Feed Control to help prevent blade damage. Forward/Neutral/Reverse Valve controls machine travel. Cutter and drive motor metering valves control blade and forwarding speeds.
Finish	Powder Coat
Machine Dimensions	22" x 25-5/8" x 14-1/8" / 560 x 650 x 360 mm
Storage Box	38" x 28 1/2" x 26" / 965 x 724 x 660 mm
Machine Weight (lbs / kg)	Pneumatic – 302 / 137
	Hydraulic – 317 / 144
Shipping Dimensions (W x D x H)	38" x 29" x 26" / 965 x 737 x 660 mm
Shipping Weight (lbs / kg)	Pneumatic – 476 / 216
	Hydraulic – 592 / 223



## CGM ACCESSORIES

Mathey Dearman CGMs utilize high-strength severing and beveling blades to smoothly cut and bevel higher tensile strength pipes. Producing no sparks or flames, these specially designed blades freely cut higher strength materials such as carbon steel, stainless steel, ductile iron, cast iron and most other alloys while reducing vibration. Their superior design and material composition of our latest blades offer even longer cutting life and smoother cuts. The CGM can produce nearly any type of pipe end configuration including standard bevels, "U" bevels, "J" preps and compound bevel angles by simply changing the beveling blades.

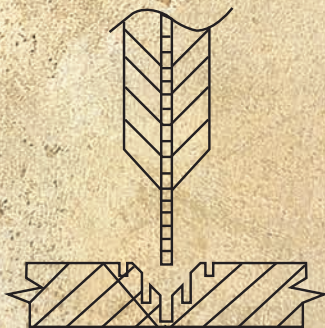
## CGM ACCESSORIES

Item Number	Description	Est. Shipping Weight
05.5500.517	Cutting Lubricant	2 lbs / 1 kg
Severing Blades		
05.5500.6579	Standard Blade, 8-3/8" x 3/16" / 212 x 4.57 mm	2 lbs / 1 kg
Beveling Blades		
05.5500.BLNK*	Blade Spacer, used when severing only (2 required)	5.5 lbs / 2.5 kg
05.5500.6251	Right 30°, 7-1/4" x 5/8" / 184 x 16.45 mm	5.5 lbs / 2.5 kg
05.5500.6252	Left 30°, 7-1/4" x 5/8" / 184 x 16.45 mm	5.5 lbs / 2.5 kg
05.5500.6510	Right 37-1/2°, 7-1/4" x 5/8" / 184 x 16.45 mm	5.5 lbs / 2.5 kg
05.5500.6511	Left 37-1/2°, 7-1/4" x 5/8" / 184 x 16.45 mm	5.5 lbs / 2.5 kg

\*Blade Spacers are installed in lieu of beveling blades when only severing is required

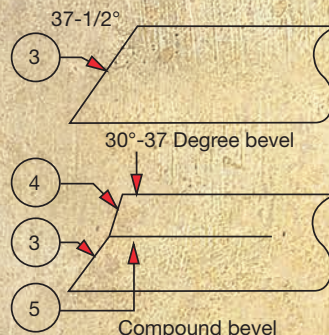


BEVELING BLADE  
SEVERING BLADE  
BEVELING BLADE



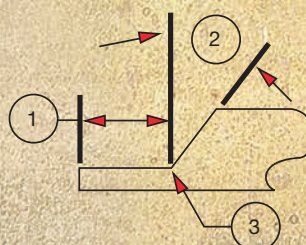
Thick-wall pipe can often be cut and beveled more quickly with the CGM by making multiple passes with only the severing blade. While the finish of the bevel may not be quite as smooth, this can be a means to cut and bevel very thick wall pipe (up to 1 1/2" / 38 mm thick) without the need for special blades.

## QUOTING AND ORDERING INFORMATION



### Beveling Blades -if other than 30° or 37 1/2°

1. Pipe outside diameter \_\_\_\_\_
2. Pipe wall thickness \_\_\_\_\_
3. Bevel angle \_\_\_\_\_
4. 2nd bevel angle if compound bevel \_\_\_\_\_
5. Height of second bevel \_\_\_\_\_



### J Prep Beveling Blades

1. Length of land \_\_\_\_\_
2. Bevel angle \_\_\_\_\_
3. Radius at point land meets beveling angle \_\_\_\_\_



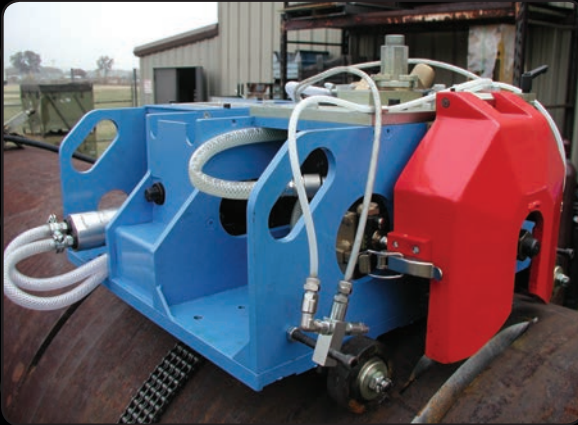


- NO SPARKS, NO FLAMES** | The CGM virtually eliminates the risk of fire or explosion
- ADAPTABLE** | Cuts all sizes of pipes or tube, 6" to 72" (152 mm to 1826 mm)
- PRECISE** | Produces machined finish required for automated welding
- NO SECOND CUTS REQUIRED** | Cuts and bevels both sides of cut simultaneously
- RUGGED** | Designed to perform in the harshest of conditions
- ACCURATE** | Machined finish cutting and beveling of large pipes and vessels
- SAFE** | Safety Shut-Off Valve automatically turns the CGM off if blade guard is raised



4-Row link chain

## CGM DRIVE CHAIN KITS |



Blade shut-off device prevents machine operation until the blade guard is locked into position.

Item Number	Wheel Position	Description	Est. Shipping Weight
01.0500.006	3 - 4	Chain Kit for 6" pipe	7 lbs / 3 kg
01.0500.008	3 - 4	Chain Kit for 8" pipe	8 lbs / 4 kg
01.0500.010	3 - 4	Chain Kit for 10" pipe	9 lbs / 4 kg
01.0500.012	3 - 4	Chain Kit for 12" pipe	10 lbs / 5 kg
01.0500.016	3 - 5	Chain Kit for 16" pipe	11 lbs / 5 kg
01.0500.018	3 - 5	Chain Kit for 18" pipe	13 lbs / 6 kg
01.0500.020	2 - 5	Chain Kit for 20" pipe	14 lbs / 6 kg
01.0500.024	2 - 5	Chain Kit for 24" pipe	15 lbs / 7 kg
01.0500.030	2 - 5	Chain Kit for 30" pipe	18 lbs / 8 kg
01.0500.036	2 - 6	Chain Kit for 36" pipe	22 lbs / 11 kg
01.0500.042	2 - 6	Chain Kit for 42" pipe	25 lbs / 11 kg
01.0500.048	1 - 6	Chain Kit for 48" pipe	27 lbs / 12 kg
01.0500.054	1 - 6	Chain Kit for 54" pipe	29 lbs / 13 kg
01.0500.060	1 - 6	Chain Kit for 60" pipe	34 lbs / 16 kg
01.0500.072	1 - 6	Chain Kit for 72" pipe	39 lbs / 18 kg

## CGM CUTTER AND CHAIN INFORMATION CHART

Nominal Pipe Size		Wheel Position	Chain Length		Purchase Quantity (ft)	Cutter 8 3/8" - 212 mm	
						Inches	mm
Inches	mm		Inches	mm			
6*	152	3 & 4	42	1065	4	2 5/16	60
8	203	3 & 4	47	1192	4	2 1/16	53
10	254	3 & 4	55	1395	5	1 3/4	45
12	305	3 & 4	61	1547	6	1 9/16	40
14	356	3 & 5	63	1598	6	2 1/8	55
16	408	3 & 5	69	1750	6	1 15/16	50
18	457	3 & 5	76	1918	7	1 3/4	45
20	508	2 & 5	82	2070	7	2 5/16	60
24	610	2 & 5	92	2335	8	2 1/16	53
30	762	2 & 5	114	2892	10	1 3/4	45
32	810	2 & 5	116	2940	10	1 9/16	40
36	914	2 & 6	137	3476	12	2 1/8	55
40	1016	2 & 6	144	3650	12	1 15/16	50
42	1067	2 & 6	156	3950	13	1 3/4	45
48	1200	1 & 6	165	4180	14	1 5/16	60
54	1400	1 & 6	183	4644	16	2 1/8	55
60	1500	1 & 6	214	5431	18	2 1/16	53
72	1800	1 & 6	244	6193	21	1 3/4	45



## HYDRAULIC POWER SUPPLIES

CGM Hydraulic power supplies are available in electric motor and diesel-powered engine models.

**ELECTRIC MOTOR** | The 380 Volt/50 HZ motor (15 HP) drives a vane-type hydraulic pump. The motor meets IEC – UNEL MEC standards and has a maximum output of 2,000 PSI (238 bar), regulated by a pressure relief valve. The reservoir capacity of the unit is approximately 52 gallons (200 liters). A fluid level indicator, located on the side, and a 25-micron steel mesh filter are built into the reservoir. The pressure outlet coupling is ½" (12.7 mm) and the return coupling is ¾" (19 mm). The unit is easily moved by a forklift or pallet truck. Lifting lugs are installed for moving the power supply in the field.

**DIESEL ENGINE** | The diesel-driven hydraulic power supply uses a diesel engine to drive the axial piston hydraulic pump. An adjustable-volume stop controls flow to the CGM H which has a maximum output of 2,000 PSI (138 bar), regulated with a pressure relief valve.

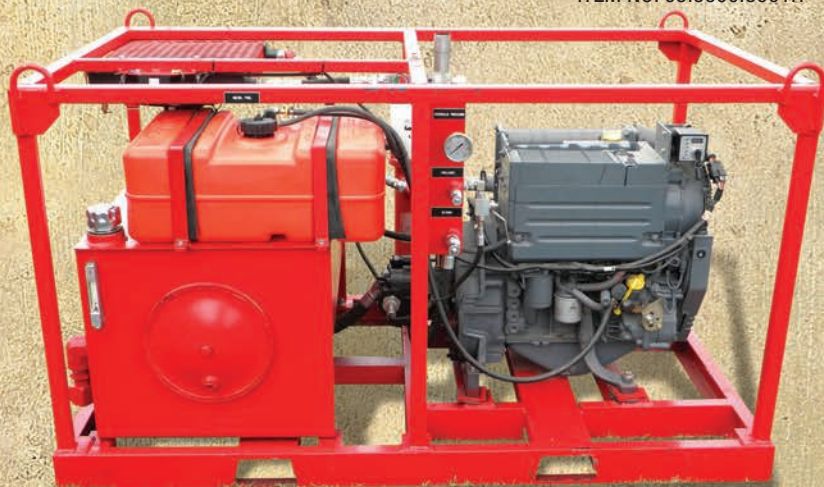
380 VAC 3-Phase electric motor-driven hydraulic power supply

ITEM NO. 05.5500.5001

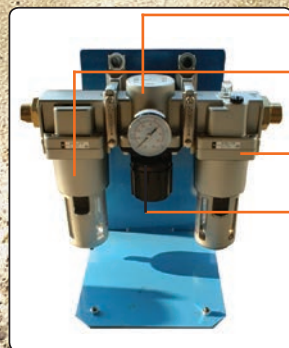


Diesel engine-driven hydraulic power supply

ITEM NO. 05.5500.5001H



## Lubrication/air regulator assembly



ITEM NO. 05.5500.00B

Air pressure gauge

Air supply lubrication system

Water separator

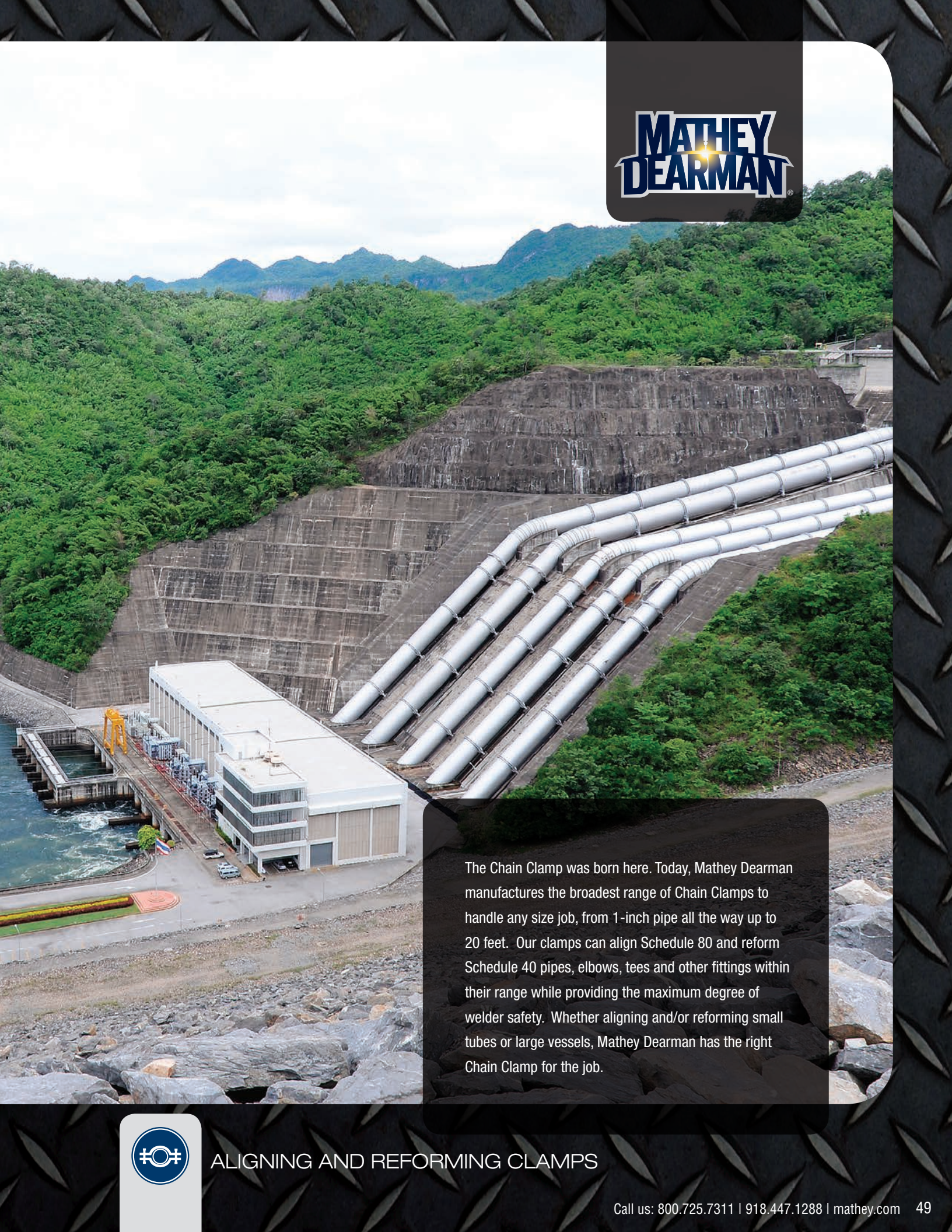
Air pressure regulator

The lubrication/air regulator assembly of the air-driven CGM P regulates air compressor pressure down to the CGM P operating pressure of 90 PSI (6 bar). The lubrication/air regulator assembly also provides a mist of oil to lubricate the blade and drive air motors for longer motor life.

## CGM HYDRAULIC POWER SUPPLY

Item Number	Description	Est. Shipping Weight
05.5500.5001	Electric Motor Driven Hydraulic Power Supply	450 lbs / 204 kg
05.5500.5001H	Diesel Engine Driven Hydraulic Power Supply	560 lbs / 254 kg





The Chain Clamp was born here. Today, Mathey Dearman manufactures the broadest range of Chain Clamps to handle any size job, from 1-inch pipe all the way up to 20 feet. Our clamps can align Schedule 80 and reform Schedule 40 pipes, elbows, tees and other fittings within their range while providing the maximum degree of welder safety. Whether aligning and/or reforming small tubes or large vessels, Mathey Dearman has the right Chain Clamp for the job.



## ALIGNING AND REFORMING CLAMPS