## 2. CONVENTIONAL TOOLS

## ADJUSTABLE WRENCHES, PIPE WRENCHES and GEAR PULLERS



Adjustable wrenches

- Firmly adjust the mouth to the width of the bolts and nuts.
- Turn towards the lower jaw
- Do not use by adding on pipes, etc
- Do not use this tool as a hammer.
- Do not apply strong impact on this tool by hitting it with a hammer, etc.


## Pipe wrenches

- Use this tool within the range of the outer diameter of the pipe being held. - Firmly hold the wrench perpendicular to the pipe and hold firmly at the center.
Do not apply force sideways.
Do not use by adding on pipes, etc
Do not use this tool as a hammer.
- Do not apply strong impact on this tool by hitting it with a hammer, etc.

Do not use when the teeth are chipped or worn, or when blocking has occurred.

## - ADJUSTABLE WRENCH


ADJUSTABLE WRENCH

|  |  |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Nominal | Opening | $\mathbf{T}_{\mathbf{1}}$ | $\mathbf{T}_{\mathbf{2}}$ | $\mathbf{B}$ | $\mathbf{L}$ | $\mathbf{\nabla} \mathbf{g}$ | $\in 9$ |  |
| WM-150 | 150 | 25 | 5.5 | 11 | 51.7 | 164.5 | 140 | 10 |  |
| $\mathbf{- 2 0 0}$ | 200 | 30 | 6.5 | 13 | 63.5 | 213 | 240 | 10 |  |
| $\mathbf{- 2 5 0}$ | 250 | 35 | 8.5 | 14.5 | 75 | 263 | 380 | 10 |  |
| $\mathbf{- 3 0 0}$ | 300 | 43 | 10 | 18.5 | 91.5 | 316 | 670 | 5 |  |

- ADJUSTABLE WRENCH



## ADJUSTABLE WRENCH

| No. | Nominal | Opening | $\mathbf{T}_{\mathbf{1}}$ | $\mathbf{T}_{\mathbf{2}}$ | $\mathbf{L}$ | $\boldsymbol{\nabla} \mathbf{g}$ | $\ominus$ |  |
| :--- | :--- | :--- | ---: | :--- | :--- | :--- | :--- | :--- |
| MWA-150 | 150 | 20 | 6.7 | 11 | 158 | 120 | 6 |  |
| $\mathbf{- 2 0 0}$ | 200 | 24 | 7.5 | 12.9 | 208 | 235 | 6 |  |
| $\mathbf{- 2 5 0}$ | 250 | 29 | 8.7 | 15.32 | 258 | 380 | 6 |  |
| $\mathbf{- 3 0 0}$ | 300 | 34 | 10.2 | 18.24 | 308 | 590 | 6 |  |
| $\mathbf{- 3 7 5}$ | 375 | 44 | 13.4 | 23.5 | 375 | 1,300 | 1 |  |
| $\mathbf{- 4 5 0}$ | 450 | 55 | 14 | 25.6 | 450 | 2,200 | 1 |  |

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| PIPE WRENCH |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Nominal | Max. Dia. of Pipe | L | $\nabla \mathrm{g}$ | $\oplus$ |
| PWA-150 | 150( 6") | 3/4"(19) | 150 | 185 | 6 |
| -200 | 200( 8") | $3 / 4$ "(20) | 185 | 350 | 5 |
| -250 | 250(10") | 1" (26) | 245 | 750 | 5 |
| -300 | 300(12") | 1/4"(32) | 300 | 1,100 | 5 |
| -350 | 350(14") | 1/2"(38) | 325 | 1,300 | 5 |
| -450 | 450(18") | 2 " (52) | 410 | 2,100 | 5 |
| -600 | 600(24") | 21/2"(65) | 540 | 3,800 | 1 |
| -900 | 900(36") | 3/4"(95) | 780 | 7,300 | 1 |

- Upper jaw screws have trapezoidal shape and are processed using a non-oxidizing
heat-treatment to enhance strength and endurance.
Upper and lower jaws have well-engaging teeth and are processed with induction heatUpper and lower jaws have we
treatment for superior strength.

ALUMINUM PIPE WRENCH

| No. | Nominal | Max. Dia. of <br> Pipe | $\mathbf{L}$ | $\boldsymbol{\nabla} \mathbf{g}$ | $\oplus$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| APWA-350 | $350\left(14^{\prime \prime}\right)$ | $1 \frac{1}{2 \prime \prime}(38)$ | 325 | 1,000 | 5 |  |
| $\mathbf{- 4 5 0}$ | $430\left(18^{\prime \prime}\right)$ | $2^{\prime \prime}(52)$ | 400 | 1,600 | 5 |  |
| -600 | $600\left(24^{\prime \prime}\right)$ | $2 \frac{1}{2 \prime \prime}(65)$ | 550 | 2,500 | 1 |  |

- Extra light body made of specially selected aluminum alloy.
- Highly accurate and rugged enough to pass U.S. Federal standards


