





COMPANY PROFILE

Hailiang is one of the world's largest producers for copper and copper alloy products including tubing, rods fittings etc. In the past 20 years, the group has committed to Efficiency, Excellence , Quality and Service as four key elements. Being guided by Technology Oriented, Brand Building Strategy, International Business Focusing, and harmonious corporation culture, Hailiang has achieved continuous high speed growth. Presently, Hailiang has more than 9000 staff, and covers 48 subordinate enterprises. With copper manufacturing as the core business, Hailiang has developed into a group company covering real estate, education, nonferrous metal trade, machinery manufacturing, plumbing plastic pipe manufacturing and hotel business .

In 2012, Hailiang's comprehensive competence has ascended to NO. 157th among the top 500 enterprises in China. Hailiang will follow its direction of make super fine, make strong, make larger endeavoring to be the most competitive copper-processing multinational enterprises in the world.



HAILIANG GROUP IN BRIEF

157rd of China's Top 500 Enterprises

17th of China's Top 500 Private Enterprises

No.72 the top 500 chinese manufacturing enterprise

No.92 China's 100 largest transnational corporation



COPPER FITTINGS

ASME B 16.22

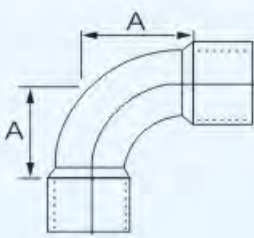

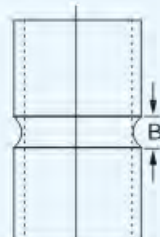



| Drawing | | HL Part No. | Actual Size (inch) | Nomial Size (inch) |
|---|------------|----------------|--------------------|--------------------|
| <p>45° Elbow C x C</p> <p>MUELLER STYLE:WE-504 CONNECTION:CXC ELKHART STYLE:106 NIBCO STYLE:9606</p>   | HL-10ECC01 | Q5/16 | | |
| | HL-10ECC02 | Q1/4 | 1/8 | |
| | HL-10ECC03 | Q3/8 | 1/4 | |
| | HL-10ECC04 | Q1/2 | 3/8 | |
| | HL-10ECC05 | Q5/8 | 1/2 | |
| | HL-10ECC06 | Q3/4 | 5/8 | |
| | HL-10ECC07 | Q7/8 | 3/4 | |
| | HL-10ECC08 | Q1 | 7/8 | |
| | HL-10ECC09 | Q1 1/8 | 1 | |
| | HL-10ECC10 | Q1 3/8 | 1 1/4 | |
| | HL-10ECC11 | Q1 5/8 | 1 1/2 | |
| | HL-10ECC12 | Q2 1/8 | 2 | |
| | HL-10ECC13 | Q2 5/8 | 2 1/2 | |
| | HL-10ECC14 | Q3 1/8 | 3 | |
| | HL-10ECC15 | Q3 5/8 | 3 1/2 | |
| | HL-10ECC16 | Q4 1/8 | 4 | |
| | HL-10ECC17 | Q5 1/8 | 5 | |
| | HL-10ECC18 | Q6 1/8 | 6 | |
| <p>90° Elbow C x C</p> <p>MUELLER STYLE:WE-500 CONNECTION:CXC ELKHART STYLE:107-C NIBCO STYLE:9607-1</p>   | HL-11ECC01 | Q5/16 | | |
| | HL-11ECC02 | Q1/4 | 1/8 | |
| | HL-11ECC03 | Q3/8 | 1/4 | |
| | HL-11ECC04 | Q1/2 | 3/8 | |
| | HL-11ECC05 | Q5/8 | 2/2 | |
| | HL-11ECC06 | Q3/4 | 5/8 | |
| | HL-11ECC07 | Q7/8 | 3/4 | |
| | HL-11ECC08 | Q1 | 7/8 | |
| | HL-11ECC09 | Q1 1/8 | 1 | |
| | HL-11ECC10 | Q1 3/8 | 1 1/4 | |
| | HL-11ECC11 | Q1 5/8 | 1 1/2 | |
| | HL-11ECC12 | Q2 1/8 | 2 | |
| | HL-11ECC13 | Q2 5/8 | 2 1/2 | |
| | HL-11ECC14 | Q3 1/8 | 3 | |
| | HL-11ECC15 | Q3 5/8 | 3 1/2 | |
| | HL-11ECC16 | Q4 1/8 | 4 | |
| | HL-11ECC17 | Q6 1/8 | 6 | |
| | HL-11ECC18 | Q8 1/8 | 8 | |
| | HL-11ECC19 | Q1/2 x 3/8 | 3/8 x 1/4 | |
| | HL-11ECC20 | Q5/8 x 1/2 | 1/2 x 3/8 | |
| | HL-11ECC21 | Q5/8 x 3/8 | 1/2 x 1/4 | |
| | HL-11ECC22 | Q7/8 x 5/8 | 3/4 x 1/2 | |
| | HL-11ECC23 | Q1 1/8 x 5/8 | 1 x 1/2 | |
| | HL-11ECC24 | Q1 1/8 x 7/8 | 1 x 3/4 | |
| | HL-11ECC25 | Q13/8 x 11/8 | 1-1/4 x 1 | |
| | HL-11ECC26 | Q13/8 x 7/8 | 1-1/4 x 3/4 | |
| | HL-11ECC27 | Q1 5/8 x 1 3/8 | 1 1/2 x 1 1/4 | |
| | HL-11ECC28 | Q21/8 x 15/8 | 2 x 1 1/2 | |

COPPER FITTINGS

ASME B 16.22

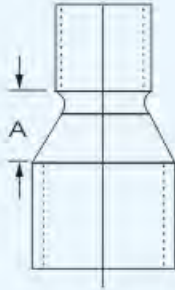



| Drawing | | HL Part No. | Actual Size (inch) | Nomial Size (inch) |
|--|---|-------------|--------------------|--------------------|
| <p>90° Long Elbow C x C</p>  | <p>MUELLER STYLE:WE-500L CONNECTION:CXC ELKHART STYLE:107-L NIBCO STYLE:9607-LT</p>  | HL-12ELCC01 | Q5/16 | |
| | | HL-12ELCC02 | Q1/4 | 1/8 |
| | | HL-12ELCC03 | Q3/8 | 1/4 |
| | | HL-12ELCC04 | Q1/2 | 3/8 |
| | | HL-12ELCC05 | Q5/8 | 1/2 |
| | | HL-12ELCC06 | Q3/4 | 5/8 |
| | | HL-12ELCC07 | Q7/8 | 3/4 |
| | | HL-12ELCC08 | Q1 | 7/8 |
| | | HL-12ELCC09 | Q1 1/8 | 1 |
| | | HL-12ELCC10 | Q1 3/8 | 1 1/4 |
| | | HL-12ELCC11 | Q1 5/8 | 1 1/2 |
| | | HL-12ELCC12 | Q2 1/8 | 2 |
| | | HL-12ELCC13 | Q2 5/8 | 2 1/2 |
| | | HL-12ELCC14 | Q3 1/8 | 3 |
| | | HL-12ELCC15 | Q3 5/8 | 3 1/2 |
| | | HL-12ELCC16 | Q4 1/8 | 4 |
| <p>Coupling w/stop rolled</p>  | <p>MUELLER STYLE:WE-400 CONNECTION:CXC ELKHART STYLE:100 NIBCO STYLE:9600-RS</p>  | HL-20CCC01 | Q5/16 | |
| | | HL-20CCC02 | Q1/4 | 1/8 |
| | | HL-20CCC03 | Q3/8 | 1/4 |
| | | HL-20CCC04 | Q1/2 | 3/8 |
| | | HL-20CCC05 | Q5/8 | 1/2 |
| | | HL-20CCC06 | Q3/4 | 5/8 |
| | | HL-20CCC07 | Q7/8 | 3/4 |
| | | HL-20CCC08 | Q1 | 7/8 |
| | | HL-20CCC09 | Q1 1/8 | 1 |
| | | HL-20CCC10 | Q1 3/8 | 1 1/4 |
| | | HL-20CCC11 | Q1 5/8 | 1 1/2 |
| | | HL-20CCC12 | Q2 1/8 | 2 |
| | | HL-20CCC13 | Q2 5/8 | 2 1/2 |
| HL-20CCC14 | Q3 1/8 | 3 | | |
| HL-20CCC15 | Q3 5/8 | 3 1/2 | | |
| HL-20CCC16 | Q4 1/8 | 4 | | |
| HL-20CCC17 | Q5 1/8 | 5 | | |
| HL-20CCC18 | Q6 1/8 | 6 | | |
| HL-20CCC19 | Q8 1/8 | 8 | | |

COPPER FITTINGS

ASME B 16.22

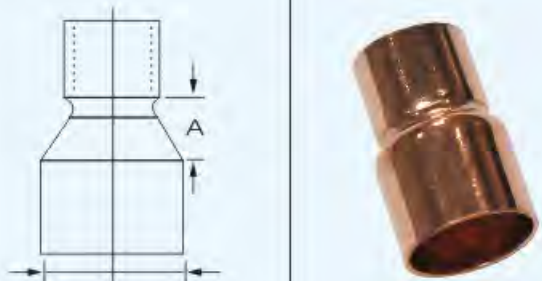


| Drawing | | HL Part No. | Actual Size (inch) | Nominal Size (inch) |
|---|--|-------------|--------------------|---------------------|
| <p>Reducing coupling w/stop C x C</p>  | <p>MUELLER STYLE:WC-400R CONNECTION:CXC ELKHART STYLE:101-R NIBCO STYLE:9600</p>  | HL-21RCC01 | Q1/4 x 3/16 | |
| | | HL-21RCC02 | Q3/4 x 3/8 | 5/8 x 1/4 |
| | | HL-21RCC03 | Q1/2 x 3/8 | 3/8 x 1/4 |
| | | HL-21RCC04 | Q1/2 x 1/4 | 3/8 x 1/8 |
| | | HL-21RCC05 | Q5/8 x 3/8 | 1/2 x 1/4 |
| | | HL-21RCC06 | Q3/8 x 1/4 | 1/4 x 1/8 |
| | | HL-21RCC07 | Q3/4 x 1/2 | 5/8 x 3/8 |
| | | HL-21RCC08 | Q5/8 x 1/2 | 1/2 x 3/8 |
| | | HL-21RCC09 | Q5/8 x 1/4 | 1/2 x 1/8 |
| | | HL-21RCC10 | Q7/8 x 1/2 | 3/4 x 3/8 |
| | | HL-21RCC11 | Q3/4 x 5/8 | 5/8 x 1/2 |
| | | HL-21RCC12 | Q7/8 x 3/8 | 3/4 x 1/4 |
| | | HL-21RCC13 | Q7/8 x 5/8 | 3/4 x 1/2 |
| | | HL-21RCC14 | Q1 1/8 x 5/8 | 1 x 1/2 |
| | | HL-21RCC15 | Q1 3/8 x 5/8 | 1 1/4 x 1/2 |
| | | HL-21RCC16 | Q7/8 x 3/4 | 3/4 x 5/8 |
| | | HL-21RCC17 | Q1 1/8 x 3/4 | 1 x 5/8 |
| | | HL-21RCC18 | Q1 1/8 x 7/8 | 1 x 3/4 |
| | | HL-21RCC19 | Q1 3/8 x 7/8 | 1 1/4 x 3/4 |
| | | HL-21RCC20 | Q1 3/8 x 3/4 | 1 1/4 x 5/8 |
| | | HL-21RCC21 | Q1 3/8 x 1 1/8 | 1 1/4 x 1 |
| | | HL-21RCC22 | Q1 5/8 x 7/8 | 1 1/2 x 3/4 |
| | | HL-21RCC23 | Q1 5/8 x 5/8 | 1 1/2 x 1/2 |
| | | HL-21RCC24 | Q1 5/8 x 3/4 | 1 1/2 x 5/8 |
| | | HL-21RCC25 | Q1 5/8 x 1 1/8 | 1 1/2 x 1 |
| | | HL-21RCC26 | Q1 5/8 x 1 3/8 | 1 1/2 x 1 1/4 |
| | | HL-21RCC27 | Q2 1/8 x 7/8 | 2 x 3/4 |
| | | HL-21RCC28 | Q2 1/8 x 5/8 | 2 x 1/2 |
| | | HL-21RCC29 | Q2 1/8 x 1 1/8 | 2 x 1 |
| | | HL-21RCC30 | Q2 1/8 x 1 3/8 | 2 x 1 1/4 |
| | | HL-21RCC31 | Q2 1/8 x 1 5/8 | 2 x 1 1/2 |
| | | HL-21RCC32 | Q2 5/8 x 1 3/8 | 2 1/2 x 1 1/4 |
| | | HL-21RCC33 | Q2 5/8 x 1 1/8 | 2 1/2 x 1 |
| | | HL-21RCC34 | Q2 5/8 x 2 1/8 | 2 1/2 x 2 |
| | | HL-21RCC35 | Q2 5/8 x 1 5/8 | 2 1/2 x 1 1/2 |
| | | HL-21RCC36 | Q3 1/8 x 2 5/8 | 3 x 2 1/2 |
| | | HL-21RCC37 | Q3 1/8 x 1 3/8 | 3 x 1 1/4 |
| | | HL-21RCC38 | Q3 1/8 x 1 5/8 | 3 x 1 1/2 |
| | | HL-21RCC39 | Q3 1/8 x 2 1/8 | 3 x 2 |
| | | HL-21RCC40 | Q3 1/8 x 2 5/8 | 3 x 2 1/2 |
| | | HL-21RCC41 | Q3 5/8 x 3 1/8 | 3 1/2 x 3 |
| | | HL-21RCC42 | Q4 1/8 x 2 1/8 | 4 x 2 |
| | | HL-21RCC43 | Q4 1/8 x 3 1/8 | 4 x 3 |
| | | HL-21RCC44 | Q4 1/8 x 3 5/5 | 4 x 3 1/2 |
| | | HL-21RCC45 | Q4 1/8 x 2 5/8 | 4 x 2 1/2 |
| | | HL-21RCC46 | Q4 1/8 x 2 1/8 | 4 x 2 |
| | | HL-21RCC47 | Q6 1/8 x 4 1/8 | 6 x 4 |
| | | HL-21RCC48 | Q6 1/8 x 3 1/8 | 6 x 3 |

COPPER FITTINGS

ASME B 16.22



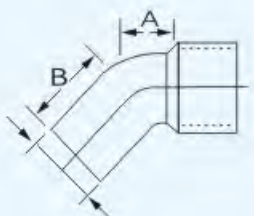

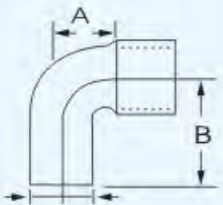

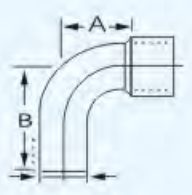



| Drawing | | HL Part No. | Actual Size (inch) | Nominal Size (inch) |
|---|--|-------------|--------------------|---------------------|
| <p>Fitting Reducer FTG × C</p> <p>CONNECTION:FTGXC ELKHART STYLE:118 NIBCO STYLE:9600-2</p>  | | HL-22RFC01 | Q3/4 × 3/8 | 5/8 × 1/4 |
| | | HL-22RFC02 | Q1/2 × 3/8 | 3/8 × 1/4 |
| | | HL-22RFC03 | Q1/2 × 1/4 | 3/8 × 1/8 |
| | | HL-22RFC04 | Q5/8 × 3/8 | 1/2 × 1/4 |
| | | HL-22RFC05 | Q3/8 × 1/4 | 1/4 × 1/8 |
| | | HL-22RFC06 | Q3/4 × 1/2 | 5/8 × 3/8 |
| | | HL-22RFC07 | Q5/8 × 1/2 | 1/2 × 3/8 |
| | | HL-22RFC08 | Q7/8 × 3/8 | 3/4 × 1/4 |
| | | HL-22RFC09 | Q7/8 × 1/2 | 3/4 × 3/8 |
| | | HL-22RFC10 | Q3/4 × 5/8 | 5/8 × 1/2 |
| | | HL-22RFC11 | Q7/8 × 5/8 | 3/4 × 1/4 |
| | | HL-22RFC12 | Q7/8 × 3/4 | 3/4 × 5/8 |
| | | HL-22RFC13 | Q1 1/8 × 1/2 | 1 × 3/8 |
| | | HL-22RFC14 | Q1 1/8 × 5/8 | 1 × 1/2 |
| | | HL-22RFC15 | Q1 1/8 × 3/4 | 1 × 5/8 |
| | | HL-22RFC16 | Q1 1/8 × 7/8 | 1 × 3/4 |
| | | HL-22RFC17 | Q1 3/8 × 3/8 | 1 1/4 × 3/4 |
| | | HL-22RFC18 | Q1 3/8 × 3/4 | 1 1/4 × 5/8 |
| | | HL-22RFC19 | Q1 3/8 × 1 1/8 | 1 1/4 × 1 |
| | | HL-22RFC20 | Q1 3/8 × 5/8 | 1 1/4 × 1/2 |
| | | HL-22RFC21 | Q1 5/8 × 7/8 | 1 1/2 × 1/2 |
| | | HL-22RFC22 | Q1 5/8 × 7/8 | 1 1/2 × 3/4 |
| | | HL-22RFC23 | Q1 5/8 × 1 1/8 | 1 1/2 × 1 |
| | | HL-22RFC24 | Q1 5/8 × 1 3/8 | 1 1/2 × 1 1/4 |
| | | HL-22RFC25 | Q2 1/8 × 7/8 | 2 × 3/4 |
| | | HL-22RFC26 | Q2 1/8 × 5/8 | 2 × 1/2 |
| | | HL-22RFC27 | Q2 1/8 × 1 1/8 | 2 × 1 |
| | | HL-22RFC28 | Q2 1/8 × 1 3/8 | 2 × 1 1/4 |
| | | HL-22RFC29 | Q2 1/8 × 1 5/8 | 2 × 1 1/2 |
| | | HL-22RFC30 | Q2 5/8 × 2 1/8 | 2 1/2 × 2 |
| | | HL-22RFC31 | Q2 5/8 × 1 3/8 | 2 1/2 × 1 1/4 |
| | | HL-22RFC32 | Q2 5/8 × 1 5/8 | 2 1/2 × 1 1/2 |
| | | HL-22RFC33 | Q2 5/8 × 1 1/8 | 2 1/2 × 1 |
| | | HL-22RFC34 | Q3 1/8 × 2 3/8 | 3 × 2 1/4 |
| | | HL-22RFC35 | Q3 1/8 × 1 3/8 | 3 × 1 1/4 |
| | | HL-22RFC36 | Q3 1/8 × 1 5/8 | 3 × 1 1/2 |
| | | HL-22RFC37 | Q3 1/8 × 2 1/8 | 3 × 2 |
| | | HL-22RFC38 | Q3 1/8 × 2 5/8 | 3 × 2 1/2 |
| | | HL-22RFC39 | Q3 5/8 × 3 1/8 | 3 1/2 × 3 |
| | | HL-22RFC40 | Q4 1/8 × 2 1/8 | 4 × 2 |
| | | HL-22RFC41 | Q4 1/8 × 3 5/8 | 4 × 3 1/4 |
| | | HL-22RFC42 | Q4 1/8 × 3 1/8 | 4 × 3 |
| | | HL-22RFC43 | Q4 1/8 × 2 3/8 | 4 × 2 1/2 |
| | | HL-22RFC44 | Q4 1/8 × 1 3/8 | 4 × 1 1/4 |

COPPER FITTINGS

ASME B 16.22



| Drawing | | HL Part No. | Actual Size (inch) | Nominal Size (inch) |
|--|---|-------------|--------------------|---------------------|
| <p>TUBE STRAP</p>  | <p>MUELLER STYLE: WS-1100 CONNECTION: FTGXC ELKHART STYLE: 120 NIBCO STYLE: 9624</p>  | HL-53TSP001 | Q1/4 | 1/8 |
| | | HL-53TSP002 | Q3/8 | 1/4 |
| | | HL-53TSP003 | Q1/2 | 3/8 |
| | | HL-53TSP004 | Q5/8 | 1/2 |
| | | HL-53TSP005 | Q3/4 | 5/8 |
| | | HL-53TSP006 | Q7/8 | 3/4 |
| | | HL-53TSP007 | Q1 1/8 | 1 |
| | | HL-53TSP008 | Q1 3/8 | 1 1/4 |
| | | HL-53TSP009 | Q1 5/8 | 1 1/2 |
| | | HL-53TSP010 | Q2 1/8 | 2 |
| <p>45° Street Elbow FTG x C</p>  | <p>MUELLER STYLE: WE-505 CONNECTION: FTGXC ELKHART STYLE: 106-2 NIBCO STYLE: 9606-2</p>  | HL-13EFC01 | Q5/16 | |
| | | HL-13EFC02 | Q1/4 | 1/8 |
| | | HL-13EFC03 | Q3/8 | 1/4 |
| | | HL-13EFC04 | Q1/2 | 3/8 |
| | | HL-13EFC05 | Q5/8 | 1/2 |
| | | HL-13EFC06 | Q3/4 | 5/8 |
| | | HL-13EFC07 | Q7/8 | 3/4 |
| | | HL-13EFC08 | Q1 | 7/8 |
| | | HL-13EFC09 | Q1 1/8 | 1 |
| | | HL-13EFC10 | Q1 3/8 | 1 1/4 |
| | | HL-13EFC11 | Q1 5/8 | 1 1/2 |
| | | HL-13EFC12 | Q2 1/8 | 2 |
| | | HL-13EFC13 | Q2 5/8 | 2 1/2 |
| | | HL-13EFC14 | Q3 1/8 | 3 |
| | | HL-13EFC15 | Q3 5/8 | 3 1/2 |
| | | HL-13EFC16 | Q4 1/8 | 4 |
| <p>90° Street Elbow FTG x C</p>  | <p>MUELLER STYLE: WE-503 CONNECTION: FTGXC ELKHART STYLE: 107-C-2 NIBCO STYLE: 9607-2</p>  | HL-14EFC01 | Q3/8 | 1/4 |
| | | HL-14EFC02 | Q1/2 | 3/8 |
| | | HL-14EFC03 | Q5/8 | 1/2 |
| | | HL-14EFC04 | Q3/4 | 5/8 |
| | | HL-14EFC05 | Q7/8 | 3/4 |
| | | HL-14EFC06 | Q1 | 7/8 |
| | | HL-14EFC07 | Q1 1/8 | 1 |
| | | HL-14EFC08 | Q1 3/8 | 1 1/4 |
| | | HL-14EFC09 | Q1 5/8 | 1 1/2 |
| | | HL-14EFC10 | Q2 1/8 | 2 |
| | | HL-14EFC11 | Q2 5/8 | 2 1/2 |
| | | HL-14EFC12 | Q3 1/8 | 3 |
| | | HL-14EFC13 | Q3 5/8 | 3 1/2 |
| | | HL-14EFC14 | Q4 1/8 | 4 |
| <p>90° Street Long Elbow FTG x C</p>  | <p>MUELLER STYLE: WE-503L CONNECTION: FTGXC ELKHART STYLE: 107-L-2 NIBCO STYLE: 9607-2-LT</p>  | HL-15ELFC02 | Q1/4 | 1/8 |
| | | HL-15ELFC03 | Q3/8 | 1/4 |
| | | HL-15ELFC04 | Q1/2 | 3/8 |
| | | HL-15ELFC05 | Q5/8 | 1/2 |
| | | HL-15ELFC06 | Q3/4 | 5/8 |
| | | HL-15ELFC07 | Q7/8 | 3/4 |
| | | HL-15ELFC08 | Q1 1/8 | 1 |
| | | HL-15ELFC09 | Q1 3/8 | 1 1/4 |
| | | HL-15ELFC10 | Q1 5/8 | 1 1/2 |
| | | HL-15ELFC11 | Q2 1/8 | 2 |
| | | HL-15ELFC12 | Q2 5/8 | 2 1/2 |
| | | HL-15ELFC13 | Q3 1/8 | 3 |

COPPER FITTINGS

ASME B 16.22

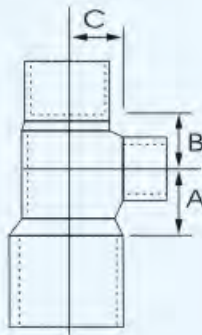



| Drawing | HL Part No. | Actual Size (inch) | Nominal Size (inch) |
|--|-------------|--------------------|---------------------|
| <p>TEE C X C X C</p> <p>MUELLER STYLE: WT-600 CONNECTION: CXCXC ELKHART STYLE: 111 NIBCO STYLE: 9611</p> | HL-30TCC01 | Q1/4 | 1/8 |
| | HL-30TCC02 | Q3/8 | 1/4 |
| | HL-30TCC03 | Q1/2 | 3/8 |
| | HL-30TCC04 | Q5/8 | 1/2 |
| | HL-30TCC05 | Q3/4 | 5/8 |
| | HL-30TCC06 | Q7/8 | 3/4 |
| | HL-30TCC07 | Q1 | 7/8 |
| | HL-30TCC08 | Q1 1/8 | 1 |
| | HL-30TCC09 | Q1 3/8 | 1 1/4 |
| | HL-30TCC10 | Q1 5/8 | 1 1/2 |
| | HL-30TCC11 | Q2 1/8 | 2 |
| | HL-30TCC12 | Q2 5/8 | 2 1/2 |
| | HL-30TCC13 | Q3 1/8 | 3 |
| | HL-30TCC14 | Q3 5/8 | 3 1/2 |
| | HL-30TCC15 | Q4 1/8 | 4 |
| | HL-30TCC16 | Q5 1/8 | 5 |
| | HL-30TCC17 | Q6 1/8 | 6 |
| | HL-30TCC18 | Q8 1/8 | 8 |
| <p>P-TRAR</p> <p>MUELLER STYLE: WE-554P CONNECTION: CXC ELKHART STYLE: N/A NIBCO STYLE: 9698</p> | HL-41PTP01 | Q5/8 | 1/2 |
| | HL-41PTP02 | Q3/4 | 5/8 |
| | HL-41PTP03 | Q7/8 | 3/4 |
| | HL-41PTP04 | Q1 1/8 | 1 |
| | HL-41PTP05 | Q1 3/8 | 1 1/4 |
| | HL-41PTP06 | Q1 5/8 | 1 1/2 |
| | HL-41PTP07 | Q2 1/8 | 2 |
| <p>U-BEND</p> <p>MUELLER STYLE: WE-512 CONNECTION: CXC ELKHART STYLE: 138 NIBCO STYLE: 9638</p> | HL-42UBD01 | Q1 1/8 x 3 | 1 |
| | HL-42UBD02 | Q1 3/8 x 3 3/4 | 1 1/4 |
| | HL-42UBD03 | Q1 5/8 x 4 1/2 | 1 1/2 |
| | HL-42UBD04 | Q5/8 x 1 7/8 | 1/2 |
| | HL-42UBD05 | Q3/7 x 2 1/2 | 5/8 |
| | HL-42UBD06 | Q3/8 x 1 1/2 | 1/4 |
| | HL-42UBD07 | Q7/8 x 2 1/2 | 3/4 |
| | HL-42UBD08 | Q1/2 x 1 1/2 | 3/8 |
| | HL-42UBD09 | Q2 1/8 x 5 1/2 | 2 |
| <p>CAP</p> <p>MUELLER STYLE: WC-415 CONNECTION: C ELKHART STYLE: 117 NIBCO STYLE: 9617</p> | HL-40CAP01 | Q1 x 4 | 1/8 |
| | HL-40CAP02 | Q3 x 8 | 1/4 |
| | HL-40CAP03 | Q1 x 2 | 3/8 |
| | HL-40CAP04 | Q5 x 8 | 1/2 |
| | HL-40CAP05 | Q3 x 4 | 5/8 |
| | HL-40CAP06 | Q7 x 8 | 3/4 |
| | HL-40CAP07 | Q1 1/8 | 1 |
| | HL-40CAP08 | Q1 3/8 | 1 1/4 |
| | HL-40CAP09 | Q1 5/8 | 1 1/2 |
| | HL-40CAP10 | Q2 1/8 | 2 |
| | HL-40CAP11 | Q2 5/8 | 2 1/2 |
| | HL-40CAP12 | Q3 1/8 | 3 |
| | HL-40CAP13 | Q4 1/8 | 4 |
| | HL-40CAP14 | Q6 1/8 | 6 |
| <p>MALE ADAPTER C X M</p> <p>MUELLER STYLE: WC-401 CONNECTION: CXM ELKHART STYLE: 104 NIBCO STYLE: 9604</p> | HL-60CM01 | Q3/8 x 1/8 | 1/4 x 1/8 |
| | HL-60CM02 | Q1/2 x 3/8 | 3/8 x 3/8 |
| | HL-60CM03 | Q5/8 x 1/2 | 1/2 x 1/2 |
| | HL-60CM04 | Q5/8 x 3/4 | 1/2 x 3/4 |
| | HL-60CM05 | Q5/8 x 3/8 | 1/2 x 3/8 |
| | HL-60CM06 | Q7/8 x 3/4 | 3/4 x 3/4 |
| | HL-60CM07 | Q1-1/8 x 1 | 1 x 1 |
| | HL-60CM08 | Q1-1/8 x 3/4 | 1 x 3/4 |
| | HL-60CM09 | Q1-3/8 x 1-1/4 | 1-1/4 x 1-1/4 |
| | HL-60CM10 | Q1-3/8 x 1 | 1-1/4 x 1 |
| | HL-60CM11 | Q1-5/8 x 1-1/2 | 1-1/2 x 1-1/2 |
| | HL-60CM12 | Q2-1/8 x 2 | 2 x 2 |

COPPER FITTINGS

ASME B 16.22



| Drawing | HL Part No. | Actual Size (inch) | Nominal Size (inch) |
|---|-------------|------------------------|---------------------|
| <p>REDUCING TEE</p> <p>MUELLER STYLE: WT-600 CONNECTION: CXCXC ELKHART STYLE: 111 NIBCO STYLE: 9611</p>   | HL-31TRC01 | Q3/8 x 1/4 | 1/4 x 1/8 |
| | HL-31TRC02 | Q3/8 x 1/2 | 1/4 x 3/8 |
| | HL-31TRC03 | Q3/8 x 1/4 x 1/4 | 1/4 x 1/8 x 1/8 |
| | HL-31TRC04 | Q1/2 x 5/8 | 3/8 x 1/2 |
| | HL-31TRC05 | Q1/2 x 3/8 | 3/8 x 3/8 x 1/4 |
| | HL-31TRC06 | Q5/8 x 1/2 | 1/2 x 1/2 x 3/8 |
| | HL-31TRC07 | Q5/8 x 11/8 | 1/2 x 1/2 x 1 |
| | HL-31TRC08 | Q5/8 x 3/8 | 1/2 x 1/2 x 1/4 |
| | HL-31TRC09 | Q5/8 x 1/4 | 1/2 x 1/2 x 1/8 |
| | HL-31TRC10 | Q5/8 x 1/2 x 5/8 | 1/2 x 3/8 x 1/2 |
| | HL-31TRC11 | Q5/8 x 1/2 x 1/2 | 1/2 x 3/8 x 3/8 |
| | HL-31TRC12 | Q5/8 x 3/8 x 1/2 | 1/2 x 1/4 x 1/2 |
| | HL-31TRC13 | Q5/8 x 7/8 | 1/2 x 3/4 |
| | HL-31TRC14 | Q3/4 x 3/8 | 5/8 x 5/8 x 1/4 |
| | HL-31TRC15 | Q3/4 x 5/8 x 5/8 | 5/8 x 1/2 x 1/2 |
| | HL-31TRC16 | Q3/4 x 1/2 | 5/8 x 3/8 |
| | HL-31TRC17 | Q7/8 x 1/2 | 3/4 x 3/8 |
| | HL-31TRC18 | Q7/8 x 3/8 | 3/4 x 3/4 x 1/4 |
| | HL-31TRC19 | Q7/8 x 3/4 | 3/4 x 5/8 |
| | HL-31TRC20 | Q7/8 x 5/8 | 3/4 x 1/2 |
| | HL-31TRC21 | Q7/8 x 1 1/8 | 3/4 x 1 |
| | HL-31TRC22 | Q7/8 x 5/8 x 5/8 | 3/4 x 1/2 x 1/2 |
| | HL-31TRC23 | Q7/8 X 5/8 X 7/8 | 3/4 x 1/2 x 3/4 |
| | HL-31TRC24 | Q1 1/8 x 1/2 | 1 x 3/8 |
| | HL-31TRC25 | Q1 1/8 x 3/4 | 1 x 5/8 |
| | HL-31TRC26 | Q1 1/8 x 5/8 | 1 x 1/2 |
| | HL-31TRC27 | Q1 1/8 x 7/8 x 11/8 | 1 x 3/4 x 1 |
| | HL-31TRC28 | Q1 1/8 x 7/8 | 1 x 3/4 |
| | HL-31TRC29 | Q1 1/8 x 7/8 x 7/8 | 1 x 3/4 x 3/4 |
| | HL-31TRC30 | Q1 1/8 x 7/8 x 5/8 | 1 x 3/4 x 1/2 |
| | HL-31TRC31 | Q1 1/8 x 5/8 x 5/8 | 1 x 1/2 x 1/2 |
| | HL-31TRC32 | Q1 1/8 x 5/8 x 7/8 | 1 x 1/2 x 3/4 |
| | HL-31TRC33 | Q1 1/8 x 1 1/8 x 7/8 | 1 x 1 x 3/4 |
| | HL-31TRC34 | Q1 1/8 x 5/8 x 1 1/8 | 1 x 1/2 x 1 |
| | HL-31TRC35 | Q1 1/8 x 1 1/8 x 1 5/8 | 1 x 1 x 1 1/2 |
| | HL-31TRC36 | Q1 1/8 x 1 1/8 x 1 3/8 | 1 x 1 x 1 1/4 |
| | HL-31TRC37 | Q1 3/8 x 1/2 | 1 1/4 x 3/8 |
| | HL-31TRC38 | Q1 3/8 x 5/8 | 1 1/4 x 1/2 |
| | HL-31TRC39 | Q1 3/8 x 7/8 | 1 1/4 x 3/4 |
| | HL-31TRC40 | Q1 3/8 x 1 3/8 x 2 1/8 | 1 1/4 x 1 1/4 x 2 |
| | HL-31TRC41 | Q1 3/8 x 1 5/8 | 1 1/4 x 1 1/2 |
| | HL-31TRC42 | Q1 3/8 x 1 1/8 | 1 1/4 x 1 |
| | HL-31TRC43 | Q1 3/8 x 1 1/8 x 1 3/8 | 1 1/4 x 1 x 1 1/4 |
| | HL-31TRC44 | Q1 3/8 x 3/4 | 1 1/4 x 5/8 |
| | HL-31TRC45 | Q1 3/8 x 1 1/8 x 1 1/8 | 1 1/4 x 1 x 1 |
| | HL-31TRC46 | Q1 3/8 x 1 1/8 x 5/8 | 1 1/4 x 1 x 1/2 |
| | HL-31TRC47 | Q1 3/8 x 7/8 x 1 1/8 | 1 1/4 x 3/4 x 1 |
| | HL-31TRC48 | Q1 3/8 x 7/8 x 7/8 | 1 1/4 x 3/4 x 3/4 |
| | HL-31TRC49 | Q1 3/8 x 1 1/8 x 7/8 | 1 1/4 x 1 x 3/4 |
| | HL-31TRC50 | Q1 3/8 x 5/8 x 5/8 | 1 1/4 x 1/2 x 1/2 |

COPPER FITTINGS

ASME B 16.22



| HL Part No. | Actual Size (inch) | Nomial Size (inch) |
|-------------|------------------------|-----------------------|
| HL-31TRC51 | Q1 3/8 x 7/8 x 1 3/8 | 1 1/4 x 3/4 x 1 1/4 |
| HL-31TRC52 | Q1 3/8 x 5/8 x 1 3/8 | 1 1/4 x 1/2 x 1 1/4 |
| HL-31TRC53 | Q1 3/8 x 7/8 x 5/8 | 1 1/4 x 3/4 x 1/2 |
| HL-31TRC54 | Q1 5/8 x 1/2 | 1 1/2 x 3/8 |
| HL-31TRC55 | Q1 5/8 x 5/8 | 1 1/2 x 1/2 |
| HL-31TRC56 | Q1 5/8 x 7/8 | 1 1/2 x 3/4 |
| HL-31TRC57 | Q1 5/8 x 2 1/8 | 1 1/2 x 1 1/2 x 2 |
| HL-31TRC58 | Q1 5/8 x 1 1/8 x 5/8 | 1 1/2 x 1 x 1/2 |
| HL-31TRC59 | Q1 5/8 x 7/8 x 5/8 | 1 1/2 x 3/4 x 1/2 |
| HL-31TRC60 | Q1 5/8 x 7/8 x 1 5/8 | 1 1/2 x 3/4 x 1 1/2 |
| HL-31TRC61 | Q1 5/8 x 7/8 x 1 3/8 | 1 1/2 x 3/4 x 1/4 |
| HL-31TRC62 | Q1 5/8 x 7/8 x 1 1/8 | 1 1/2 x 3/4 x 1 |
| HL-31TRC63 | Q1 5/8 x 7/8 x 7/8 | 1 1/2 x 3/4 x 3/4 |
| HL-31TRC64 | Q1 5/8 x 1 1/8 x 1 1/8 | 1 1/2 x 1 x 1 |
| HL-31TRC65 | Q1 5/8 x 1 1/8 x 1 3/8 | 1 1/2 x 1 x 1 1/4 |
| HL-31TRC66 | Q1 5/8 x 1 3/8 x 7/8 | 1 1/2 x 1 1/4 x 3/4 |
| HL-31TRC67 | Q1 5/8 x 1 3/8 x 5/8 | 1 1/2 x 1 1/4 x 1/2 |
| HL-31TRC68 | Q1 5/8 x 1 3/8 x 1 5/8 | 1 1/2 x 1 1/4 x 1 1/2 |
| HL-31TRC69 | Q1 5/8 x 1 3/8 x 1 3/8 | 1 1/2 x 1 1/4 x 1 1/4 |
| HL-31TRC70 | Q1 5/8 x 1 3/8 x 1 1/8 | 1 1/2 x 1 1/4 x 1 |
| HL-31TRC71 | Q1 5/8 x 1 3/8 x 1 5/8 | 1 1/2 x 1/2 x 1 1/2 |
| HL-31TRC72 | Q1 5/8 x 1 3/8 | 1 1/2 x 1 1/4 |
| HL-31TRC73 | Q1 5/8 x 1 1/8 x 1 5/8 | 1 1/2 x 1 x 1 1/2 |
| HL-31TRC74 | Q1 5/8 x 1 1/8 x 7/8 | 1 1/2 x 1 x 3/4 |
| HL-31TRC75 | Q1 5/8 x 1 1/8 | 1 1/2 x 1 |
| HL-31TRC76 | Q2 1/8 x 5/8 | 2 x 1/2 |
| HL-31TRC77 | Q2 1/8 x 7/8 | 2 x 3/4 |
| HL-31TRC78 | Q2 1/8 x 1 3/8 | 2 x 1 1/4 |
| HL-31TRC79 | Q2 1/8 x 1 1/8 | 2 x 2 X 1 |
| HL-31TRC80 | Q2 1/8 x 1 5/8 x 2 1/8 | 2 x 1 1/2 x 2 |
| HL-31TRC81 | Q2 1/8 x 1 5/8 x 1 1/8 | 2 x 1 1/2 x 1 |
| HL-31TRC82 | Q2 1/8 x 1 5/8 x 5/8 | 2 x 1 1/2 x 1/2 |
| HL-31TRC83 | Q2 1/8 x 1 3/8 x 2 1/8 | 2 x 1 1/4 x 2 |
| HL-31TRC84 | Q2 1/8 x 1 3/8 x 1 5/8 | 2 x 1 1/4 x 1 1/2 |
| HL-31TRC85 | Q2 1/8 x 1 3/8 x 1 1/8 | 2 x 1 1/4 x 1 |
| HL-31TRC86 | Q2 1/8 x 1 3/8 x 7/8 | 2 x 1 1/4 x 3/4 |
| HL-31TRC87 | Q2 1/8 x 1 1/8 x 2 1/8 | 2 x 1 x 2 |
| HL-31TRC88 | Q2 1/8 x 1 1/8 x 1 5/8 | 2 x 1 x 1 1/2 |
| HL-31TRC89 | Q2 1/8 x 1 1/8 x 1 1/8 | 2 x 1 x 1 |
| HL-31TRC90 | Q2 1/8 x 7/8 x 1 5/8 | 2 x 3/4 x 1 1/2 |
| HL-31TRC91 | Q2 1/8 x 7/8 x 2 1/8 | 2 x 3/4 x 2 |
| HL-31TRC92 | Q2 1/8 x 5/8 x 2 1/8 | 2 x 1/2 x 2 |
| HL-31TRC93 | Q2 1/8 x 2 1/8 x 2 5/8 | 2 x 2 x 2 1/2 |
| HL-31TRC94 | Q2 1/8 x 1 5/8 | 2 x 1 1/2 |
| HL-31TRC95 | Q2 1/8 x 1 5/8 x 1 3/8 | 2 x 1 1/2 x 1 1/4 |
| HL-31TRC96 | Q2 1/8 x 1 3/8 x 1 3/8 | 2 x 1 1/4 x 1 1/4 |
| HL-31TRC97 | Q2 1/8 x 1 5/8 x 7/8 | 2 x 1 1/2 x 3/4 |
| HL-31TRC98 | Q2 1/8 x 1 5/8 x 1 5/8 | 2 x 1 1/2 x 1 1/2 |
| HL-31TRC99 | Q2 5/8 x 5/8 | 2 1/2 x 1/2 |
| HL-31TRC100 | Q2 5/8 x 7/8 | 2 1/2 x 3/4 |

| HL Part No. | Actual Size (inch) | Nomial Size (inch) |
|-------------|------------------------|-----------------------|
| HL-31TRC101 | Q2 5/8 x 1 1/8 | 2 1/2 x 1 |
| HL-31TRC102 | Q2 5/8 x 1 3/8 | 2 1/2 x 1 1/4 |
| HL-31TRC103 | Q2 5/8 x 1 5/8 | 2 1/2 x 1 1/2 |
| HL-31TRC104 | Q2 5/8 x 2 1/8 x 1 5/8 | 2 1/2 x 2 x 2 1/2 |
| HL-31TRC105 | Q2 5/8 x 2 1/8 x 1 3/8 | 2 1/2 x 2 x 1 1/4 |
| HL-31TRC106 | Q2 5/8 x 2 1/8 x 1 1/8 | 2 1/2 x 2 x 1 |
| HL-31TRC107 | Q2 5/8 x 2 1/8 x 7/8 | 2 1/2 x 2 x 3/4 |
| HL-31TRC108 | Q2 5/8 x 2 1/8 x 5/8 | 2 1/2 x 2 x 1/2 |
| HL-31TRC109 | Q2 5/8 x 1 5/8 x 2 5/8 | 2 1/2 x 1 1/2 x 2 1/2 |
| HL-31TRC110 | Q2 5/8 x 1 3/8 x 2 5/8 | 2 1/2 x 1 1/4 x 2 1/2 |
| HL-31TRC111 | Q2 5/8 x 1 3/8 x 2 3/8 | 2 1/2 x 1 1/4 x 1 1/4 |
| HL-31TRC112 | Q2 5/8 x 1 1/8 x 2 5/8 | 2 1/2 x 1 x 2 1/2 |
| HL-31TRC113 | Q2 5/8 x 2 1/8 | 2 1/2 x 2 |
| HL-31TRC114 | Q2 5/8 x 7/8 x 2 5/8 | 2 1/2 x 3/4 x 2 1/2 |
| HL-31TRC115 | Q2 5/8 x 2 1/8 x 1 5/8 | 2 1/2 x 2 x 1 1/2 |
| HL-31TRC116 | Q2 5/8 x 2 1/8 x 2 1/8 | 2 1/2 x 2 x 2 |
| HL-31TRC117 | Q3 1/8 x 3 1/8 x 5/8 | 3 x 3 x 1/2 |
| HL-31TRC118 | Q3 1/8 x 7/8 | 3 x 3/4 |
| HL-31TRC119 | Q3 1/8 x 1 1/8 | 3 x 1 |
| HL-31TRC120 | Q3 1/8 x 1 3/8 | 3 x 1 1/4 |
| HL-31TRC121 | Q3 1/8 x 1 5/8 | 3 x 1 1/2 |
| HL-31TRC122 | Q3 1/8 x 2 1/8 | 3 X 2 |
| HL-31TRC123 | Q3 1/8 x 2 5/8 | 3 x 2 1/2 |
| HL-31TRC124 | Q3 1/8 x 2 5/8 x 3 1/8 | 3 x 2 1/2 x 3 |
| HL-31TRC125 | Q3 1/8 x 2 5/8 x 2 5/8 | 3 x 2 1/2 x 2 1/2 |
| HL-31TRC126 | Q3 1/8 x 2 5/8 x 2 1/8 | 3 x 2 1/2 x 2 |
| HL-31TRC127 | Q3 1/8 x 2 5/8 x 1 5/8 | 3 x 2 1/2 x 1 1/2 |
| HL-31TRC128 | Q3 1/8 x 2 5/8 x 1 1/8 | 3 x 2 1/2 x 1 |
| HL-31TRC129 | Q3 1/8 x 2 5/8 x 7/8 | 3 x 2 1/2 x 3/4 |
| HL-31TRC130 | Q3 1/8 x 2 1/8 x 3 1/8 | 3 x 2 x 3 |
| HL-31TRC131 | Q3 1/8 x 2 1/8 x 2 5/8 | 3 x 2 x 2 1/2 |
| HL-31TRC132 | Q3 1/8 x 1/8 x 2 5/8 | 3 x 2 x 2 |
| HL-31TRC133 | Q3 1/8 x 2 1/8 x 1 5/8 | 3 x 2 x 1 1/2 |
| HL-31TRC134 | Q3 1/8 x 1 5/8 x 3 1/8 | 3 x 1 1/2 x 3 |
| HL-31TRC135 | Q4 1/8 x 3 1/8 | 4 x 3 |
| HL-31TRC136 | Q4 1/8 x 2 1/8 | 4 x 2 |
| HL-31TRC137 | Q4 1/8 x 1 5/8 | 4 x 1 1/2 |
| HL-31TRC138 | Q4 1/8 x 2 5/8 | 4 x 4 x 2 1/2 |
| HL-31TRC139 | Q4 1/8 x 1 3/8 | 4 x 4 x 1 1/4 |
| HL-31TRC140 | Q4 1/8 x 1 1/8 | 4 x 4 x 1 |
| HL-31TRC141 | Q4 1/8 x 7/8 | 4 x 4 x 3/4 |
| HL-31TRC142 | Q4 1/8 x 5/8 | 4 x 4 x 1/2 |
| HL-31TRC143 | Q4 1/8 x 3 1/8 x 4 1/8 | 4 x 3 x 4 |
| HL-31TRC144 | Q4 1/8 x 3 1/8 x 3 1/8 | 4 x 3 x 3 |
| HL-31TRC145 | Q4 1/8 x 3 1/8 x 2 1/8 | 4 x 3 x 2 |
| HL-31TRC146 | Q4 1/8 x 2 1/8 x 4 1/8 | 4 x 2 x 4 |
| HL-31TRC147 | Q6 1/8 x 6 1/8 x 4 1/8 | 6 x 6 x 4 |
| HL-31TRC148 | Q6 1/8 x 6 1/8 x 3 1/8 | 6 x 6 x 3 |
| HL-31TRC149 | Q6 1/8 x 6 1/8 x 2 1/8 | 6 x 6 x 2 |
| HL-31TRC150 | Q8 1/8 x 8 1/8 x 4 1/8 | 8 x 8 x 4 |

COPPER FITTINGS

ASME B 16.22



| Drawing | HL Part No. | Actual Size (inch) | Nominal Size (inch) |
|--|-------------|--------------------|---------------------|
| FEMALE ADAPTER C × F  MUELLER STYLE:WC-402 CONNECTION: CXF ELKHART STYLE:103 NIBCO STYLE:9603  | HL-61CF01 | Q1/2 × 3/8 | 3/8 × 3/8 |
| | HL-61CF02 | Q5/8 × 1/2 | 1/2 × 1/2 |
| | HL-61CF03 | Q5/8 × 3/4 | 1/2 × 3/4 |
| | HL-61CF04 | Q5/8 × 3/8 | 1/2 × 3/8 |
| | HL-61CF05 | Q5/8 × 1/4 | 1/2 × 1/4 |
| | HL-61CF06 | Q7/8 × 3/4 | 3/4 × 3/4 |
| | HL-61CF07 | Q7/8 × 1/2 | 3/4 × 1/2 |
| | HL-61CF08 | Q1-1/8 × 1 | 1 × 1 |
| | HL-61CF09 | Q1-1/8 × 3/4 | 1 × 3/4 |
| | HL-61CF10 | Q1-3/8 × 1-1/4 | 1-1/4 × 1-1/4 |
| | HL-61CF11 | Q1-5/8 × 1-1/2 | 1-1/2 × 1-1/2 |
| | HL-61CF12 | Q2-1/8 × 2 | 2 × 2 |
| FEMALE ADAPTER FTG × F  MUELLER STYLE:WC-405 CONNECTION: FTGXF ELKHART STYLE:103-2 NIBCO STYLE:9603-2  | HL-62FF01 | Q3/8 × 3/8 | 1/4 × 1/4 |
| | HL-62FF02 | Q1/2 × 1/2 | 3/8 × 3/8 |
| | HL-62FF03 | Q1/2 × 3/8 | 3/8 × 1/4 |
| | HL-62FF04 | Q1/2 × 1/4 | 3/8 × 1/8 |
| | HL-62FF05 | Q5/8 × 1/2 | 1/2 × 3/8 |
| | HL-62FF06 | Q5/8 × 3/8 | 1/2 × 1/4 |
| | HL-62FF07 | Q7/8 × 3/4 | 3/4 × 5/8 |
| | HL-62FF08 | Q7/8 × 1/2 | 3/4 × 3/8 |
| | HL-62FF09 | Q1-1/8 × 1 | 1 × 7/8 |
| | HL-62FF10 | Q1-1/8 × 3/4 | 1 × 5/8 |
| | HL-62FF11 | Q1-3/8 × 1-1/4 | 1-1/4 × 1-1/8 |
| | HL-62FF12 | Q1-5/8 × 1-1/2 | 1-1/2 × 1-3/8 |
| | HL-62FF13 | Q2-1/8 × 2 | 2 × 1-7/8 |
| | HL-62FF14 | Q2-5/8 × 2-1/2 | 2-1/2 × 2-3/8 |
| MALE ADAPTER FTG × M  MUELLER STYLE:WC-404 CONNECTION: FTGXM ELKHART STYLE:104-2 NIBCO STYLE:9604-2  | HL-63FM01 | Q3/8 × 3/8 | 1/4 × 1/4 |
| | HL-63FM02 | Q1/2 × 3/8 | 3/8 × 1/4 |
| | HL-63FM03 | Q5/8 × 1/2 | 1/2 × 3/8 |
| | HL-63FM04 | Q5/8 × 3/8 | 1/2 × 1/4 |
| | HL-63FM05 | Q7/8 × 3/4 | 3/4 × 5/8 |
| | HL-63FM06 | Q7/8 × 1/2 | 3/4 × 3/8 |
| | HL-63FM07 | Q1-1/8 × 1 | 1 × 7/8 |
| | HL-63FM08 | Q1-1/8 × 3/4 | 1 × 5/8 |
| | HL-63FM09 | Q1-3/8 × 1-1/4 | 1-1/4 × 1-1/8 |
| | HL-63FM10 | Q1-5/8 × 1-1/2 | 1-1/2 × 1-3/8 |
| | HL-63FM11 | Q2-1/8 × 2 | 2 × 1-7/8 |
| | HL-63FM12 | Q2-5/8 × 2-1/2 | 2-1/2 × 2-3/8 |

COPPER FITTINGS

EN 1254-1 KITEMARK



| Drawing | HL Part No. | Size (inch) |
|--|-------------|-------------|
| <p>45° Equal Elbow C × C E10ECC</p> | HLE10ECC01 | 8 |
| | HLE10ECC02 | 10 |
| | HLE10ECC03 | 12 |
| | HLE10ECC04 | 15 |
| | HLE10ECC05 | 22 |
| | HLE10ECC06 | 28 |
| | HLE10ECC07 | 35 |
| | HLE10ECC08 | 42 |
| | HLE10ECC09 | 54 |
| | HLE10ECC10 | 67 |
| | HLE10ECC11 | 76 |
| | HLE10ECC12 | 108 |
| | HLE10ECC13 | 133 |
| | HLE10ECC14 | 159 |
| | HLE10ECC15 | 219 |
| | HLE10ECC16 | 276 |
| | HLE10ECC17 | 308 |
| <p>90° Equal Elbow C × C HLE11ECC</p> | HLE11ECC01 | 6 |
| | HLE11ECC02 | 8 |
| | HLE11ECC03 | 10 |
| | HLE11ECC04 | 12 |
| | HLE11ECC05 | 15 |
| | HLE11ECC06 | 18 |
| | HLE11ECC07 | 22 |
| | HLE11ECC08 | 22 × 15 |
| | HLE11ECC09 | 28 |
| | HLE11ECC10 | 35 |
| | HLE11ECC11 | 42 |
| | HLE11ECC12 | 54 |
| | HLE11ECC13 | 67 |
| | HLE11ECC14 | 76 |
| | HLE11ECC15 | 89 |
| | HLE11ECC16 | 108 |
| | HLE11ECC17 | 133 |
| | HLE11ECC18 | 159 |
| | HLE11ECC19 | 219 |
| | HLE11ECC20 | 276 |
| | HLE11ECC21 | 308 |
| <p>45° Street Elbow FTG × C E13EFC</p> | HLE13EFC01 | 8 |
| | HLE13EFC02 | 10 |
| | HLE13EFC03 | 12 |
| | HLE13EFC04 | 15 |
| | HLE13EFC05 | 22 |
| | HLE13EFC06 | 28 |
| | HLE13EFC07 | 35 |
| | HLE13EFC08 | 42 |
| | HLE13EFC09 | 54 |
| | HLE13EFC10 | 67 |
| | HLE13EFC11 | 76 |
| | HLE13EFC12 | 89 |
| | HLE13EFC13 | 108 |
| | HLE13EFC14 | 159 |

COPPER FITTINGS

EN 1254-1 KITEMARK



| Drawing | HL Part No. | Size (inch) |
|---|-------------|-------------|
| <p>90° Street Elbow FTG×C E14EFC</p> | HLE14EFC01 | 6 |
| | HLE14EFC02 | 8 |
| | HLE14EFC03 | 10 |
| | HLE14EFC04 | 12 |
| | HLE14EFC05 | 15 |
| | HLE14EFC06 | 22 |
| | HLE14EFC07 | 28 |
| | HLE14EFC08 | 35 |
| | HLE14EFC09 | 42 |
| | HLE14EFC10 | 54 |
| | HLE14EFC11 | 67 |
| | HLE14EFC12 | 76 |
| | HLE14EFC13 | 108 |
| | HLE14EFC14 | 133 |
| | HLE14EFC15 | 159 |
| | HLE14EFC16 | 219 |
| <p>90° Long Radius Street Elbow C×FTG E15ELFC</p> | HLE15ELFC01 | 12 |
| | HLE15ELFC02 | 15 |
| | HLE15ELFC03 | 22 |
| | HLE15ELFC04 | 28 |
| | HLE15ELFC05 | 35 |
| | HLE15ELFC06 | 42 |
| | HLE15ELFC07 | 54 |
| | HLE15ELFC08 | 64 |
| | HLE15ELFC09 | 76 |
| | HLE15ELFC10 | 89 |
| | HLE15ELFC11 | 108 |
| <p>90° Long Radius Elbow C×C E12ELCC</p> | HLE12ELCC01 | 12 |
| | HLE12ELCC02 | 15 |
| | HLE12ELCC03 | 22 |
| | HLE12ELCC04 | 28 |
| | HLE12ELCC05 | 35 |
| | HLE12ELCC06 | 42 |
| | HLE12ELCC07 | 54 |
| | HLE12ELCC08 | 64 |
| | HLE12ELCC09 | 76 |
| | HLE12ELCC10 | 89 |
| | HLE12ELCC11 | 108 |
| <p>Equal Tee C×C×C E30TCC</p> | HLE30TCC01 | 6 |
| | HLE30TCC02 | 8 |
| | HLE30TCC03 | 10 |
| | HLE30TCC04 | 12 |
| | HLE30TCC05 | 15 |
| | HLE30TCC06 | 18 |
| | HLE30TCC07 | 22 |
| | HLE30TCC08 | 28 |
| | HLE30TCC09 | 35 |
| | HLE30TCC10 | 42 |
| | HLE30TCC11 | 54 |
| | HLE30TCC12 | 67 |
| | HLE30TCC13 | 76 |
| | HLE30TCC14 | 89 |
| HLE30TCC15 | 108 | |
| HLE30TCC16 | 133 | |
| HLE30TCC17 | 159 | |
| HLE30TCC18 | 219 | |
| HLE30TCC19 | 276 | |
| HLE30TCC20 | 308 | |

COPPER FITTINGS

EN 1254-1 KITEMARK



| | Drawing | HL Part No. | Size (inch) |
|--|---------|-------------|-----------------|
| | | HLE31TRC01 | 12 × 12 × 10 |
| | | HLE31TRC02 | 12 × 12 × 16 |
| | | HLE31TRC03 | 15 × 15 × 22 |
| | | HLE31TRC04 | 22 × 15 × 15 |
| | | HLE31TRC05 | 18 × 15 × 18 |
| | | HLE31TRC06 | 22 × 15 × 22 |
| | | HLE31TRC07 | 22 × 22 × 14 |
| | | HLE31TRC08 | 22 × 22 × 15 |
| | | HLE31TRC09 | 22 × 22 × 16 |
| | | HLE31TRC10 | 28 × 28 × 22 |
| | | HLE31TRC11 | 28 × 28 × 15 |
| | | HLE31TRC12 | 28 × 22 × 15 |
| | | HLE31TRC13 | 35 × 35 × 15 |
| | | HLE31TRC14 | 35 × 35 × 22 |
| | | HLE31TRC15 | 35 × 35 × 28 |
| | | HLE31TRC16 | 42 × 42 × 15 |
| | | HLE31TRC17 | 42 × 42 × 22 |
| | | HLE31TRC18 | 42 × 42 × 28 |
| | | HLE31TRC19 | 42 × 42 × 35 |
| | | HLE31TRC20 | 42 × 42 × 54 |
| | | HLE31TRC21 | 54 × 54 × 15 |
| | | HLE31TRC22 | 54 × 54 × 22 |
| | | HLE31TRC23 | 54 × 54 × 28 |
| | | HLE31TRC24 | 54 × 54 × 35 |
| | | HLE31TRC25 | 54 × 54 × 42 |
| | | HLE31TRC26 | 54 × 42 × 42 |
| | | HLE31TRC27 | 67 × 67 × 22 |
| | | HLE31TRC28 | 67 × 67 × 28 |
| | | HLE31TRC29 | 67 × 67 × 35 |
| | | HLE31TRC30 | 67 × 67 × 42 |
| | | HLE31TRC31 | 67 × 67 × 54 |
| | | HLE31TRC32 | 76 × 76 × 28 |
| | | HLE31TRC33 | 76 × 76 × 35 |
| | | HLE31TRC34 | 76 × 76 × 42 |
| | | HLE31TRC35 | 76 × 76 × 54 |
| | | HLE31TRC36 | 76 × 76 × 67 |
| | | HLE31TRC37 | 108 × 108 × 42 |
| | | HLE31TRC38 | 108 × 108 × 54 |
| | | HLE31TRC39 | 108 × 108 × 67 |
| | | HLE31TRC40 | 108 × 108 × 76 |
| | | HLE31TRC41 | 133 × 133 × 108 |
| | | HLE31TRC42 | 159 × 159 × 133 |
| | | HLE31TRC43 | 159 × 159 × 108 |
| | | HLE31TRC44 | 219 × 219 × 159 |

Reducing Tee C × C × C E31TRC



COPPER FITTINGS

EN 1254-1 KITEMARK



| Drawing | | HL Part No. | Size (inch) |
|--------------------------------------|------------|-------------|-------------|
| <p>Stop End E40CAP</p> | | HLE40CAP01 | 8 |
| | | HLE40CAP02 | 10 |
| | | HLE40CAP03 | 15 |
| | | HLE40CAP04 | 22 |
| | | HLE40CAP05 | 28 |
| | | HLE40CAP06 | 35 |
| | | HLE40CAP07 | 42 |
| | | HLE40CAP08 | 54 |
| | | HLE40CAP09 | 67 |
| | | HLE40CAP10 | 76 |
| | | HLE40CAP11 | 108 |
| | | HLE40CAP12 | 159 |
| <p>Reducing Coupler C x C E21RCC</p> | | HLE21RCC01 | 15 x 10 |
| | | HLE21RCC02 | 18 x 12 |
| | | HLE21RCC03 | 18 x 15 |
| | | HLE21RCC04 | 22 x 15 |
| | | HLE21RCC05 | 28 x 15 |
| | | HLE21RCC06 | 28 x 18 |
| | | HLE21RCC07 | 28 x 22 |
| | | HLE21RCC08 | 35 x 15 |
| | | HLE21RCC09 | 35 x 22 |
| | | HLE21RCC10 | 35 x 28 |
| | | HLE21RCC11 | 42 x 15 |
| | | HLE21RCC12 | 42 x 22 |
| | | HLE21RCC13 | 42 x 28 |
| | | HLE21RCC14 | 42 x 35 |
| | | HLE21RCC15 | 54 x 22 |
| | | HLE21RCC16 | 54 x 28 |
| | | HLE21RCC17 | 54 x 35 |
| | | HLE21RCC18 | 54 x 42 |
| | | HLE21RCC19 | 67 x 35 |
| | | HLE21RCC20 | 67 x 42 |
| | HLE21RCC21 | 67 x 54 | |
| | HLE21RCC22 | 76 x 35 | |
| | HLE21RCC23 | 76 x 42 | |
| | HLE21RCC24 | 76 x 54 | |
| | HLE21RCC25 | 76 x 64 | |
| | HLE21RCC26 | 108 x 54 | |
| | HLE21RCC27 | 108 x 67 | |
| | HLE21RCC28 | 108 x 76 | |
| | HLE21RCC29 | 133 x 108 | |
| | HLE21RCC30 | 159 x 108 | |
| | HLE21RCC31 | 219 x 108 | |

COPPER FITTINGS

EN 1254-1 KITEMARK



| Drawing | HL Part No. | Size (inch) |
|--|-------------|-------------|
| <p>Fitting Reducer C × FTG E22RCF</p>  | HLE22RCF01 | 16 × 12 |
| | HLE22RCF02 | 22 × 15 |
| | HLE22RCF03 | 22 × 18 |
| | HLE22RCF04 | 28 × 15 |
| | HLE22RCF05 | 28 × 16 |
| | HLE22RCF06 | 28 × 22 |
| | HLE22RCF07 | 35 × 15 |
| | HLE22RCF08 | 35 × 22 |
| | HLE22RCF09 | 35 × 28 |
| | HLE22RCF10 | 42 × 15 |
| | HLE22RCF11 | 42 × 18 |
| | HLE22RCF12 | 42 × 22 |
| | HLE22RCF13 | 42 × 28 |
| | HLE22RCF14 | 42 × 35 |
| | HLE22RCF15 | 54 × 22 |
| | HLE22RCF16 | 54 × 28 |
| | HLE22RCF17 | 54 × 35 |
| | HLE22RCF18 | 54 × 42 |
| | HLE22RCF19 | 67 × 28 |
| | HLE22RCF20 | 67 × 35 |
| | HLE22RCF21 | 67 × 54 |
| | HLE22RCF22 | 76 × 35 |
| | HLE22RCF23 | 76 × 54 |
| | HLE22RCF24 | 108 × 54 |
| | HLE22RCF25 | 133 × 108 |
| | HLE22RCF26 | 159 × 108 |
| | HLE22RCF27 | 219 × 159 |
| <p>Equal Coupler C × C E20CC</p>  | HLE20CC01 | 6 |
| | HLE20CC02 | 8 |
| | HLE20CC03 | 10 |
| | HLE20CC04 | 12 |
| | HLE20CC05 | 15 |
| | HLE20CC06 | 18 |
| | HLE20CC07 | 22 |
| | HLE20CC08 | 28 |
| | HLE20CC09 | 35 |
| | HLE20CC10 | 42 |
| | HLE20CC11 | 54 |
| | HLE20CC12 | 64 |
| | HLE20CC13 | 67 |
| | HLE20CC14 | 76 |
| | HLE20CC15 | 89 |
| | HLE20CC16 | 108 |
| | HLE20CC17 | 133 |
| | HLE20CC18 | 159 |
| | HLE20CC19 | 219 |
| | HLE20CC20 | 276 |
| | HLE20CC21 | 308 |



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