Press fitting technology for high-pressure water mist installations

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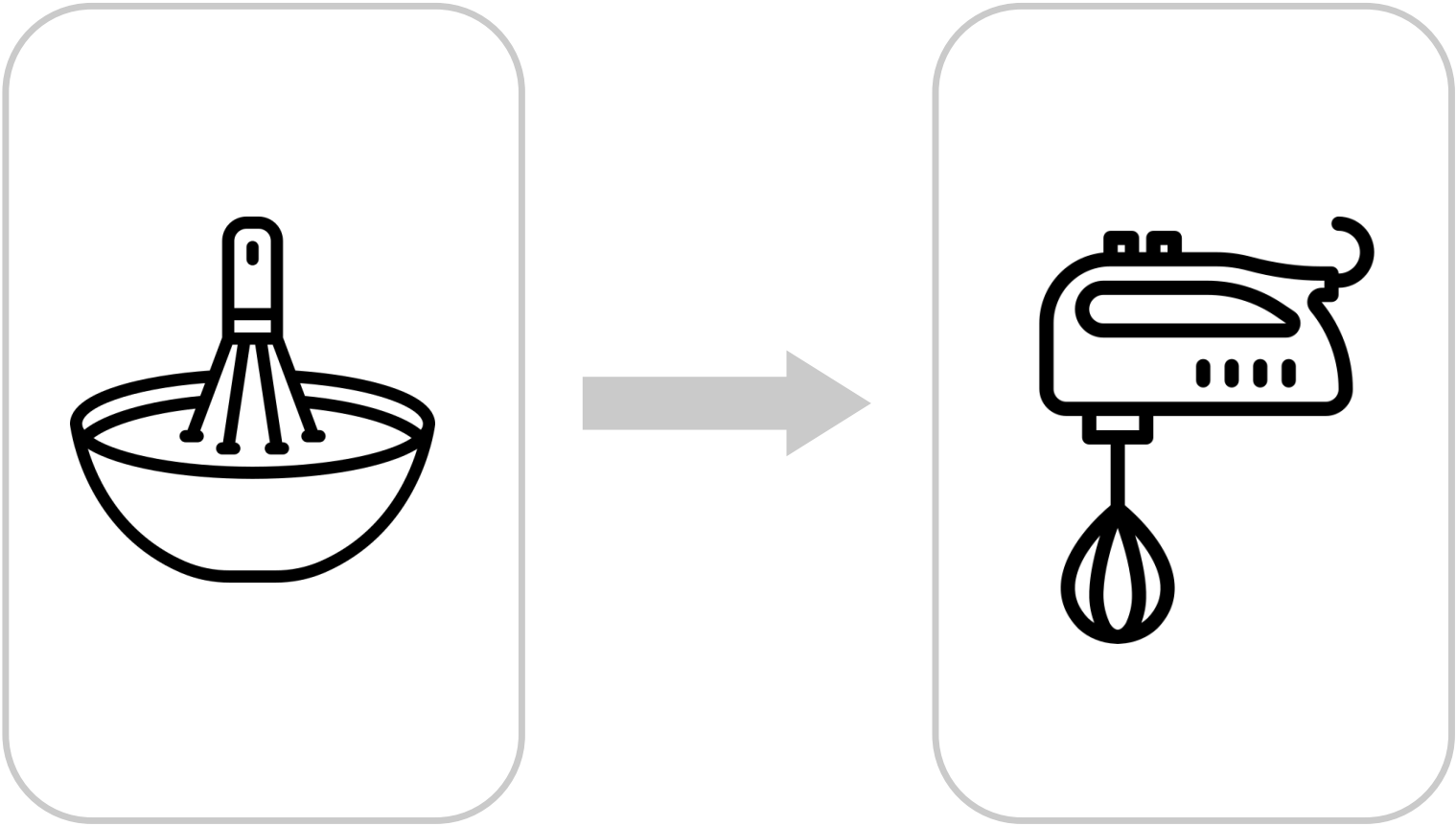
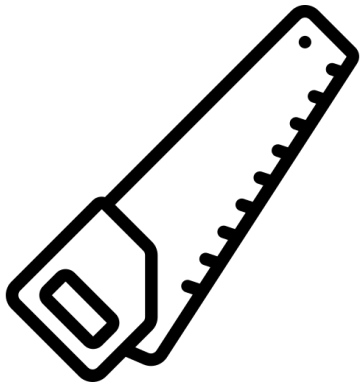
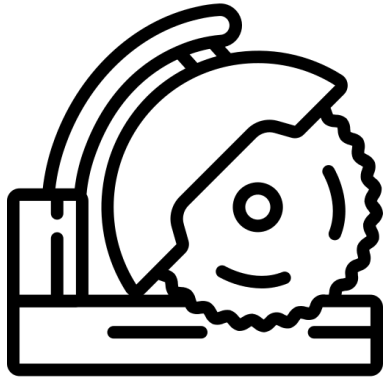
SIMPLIFY YOUR LIFE (1/4)

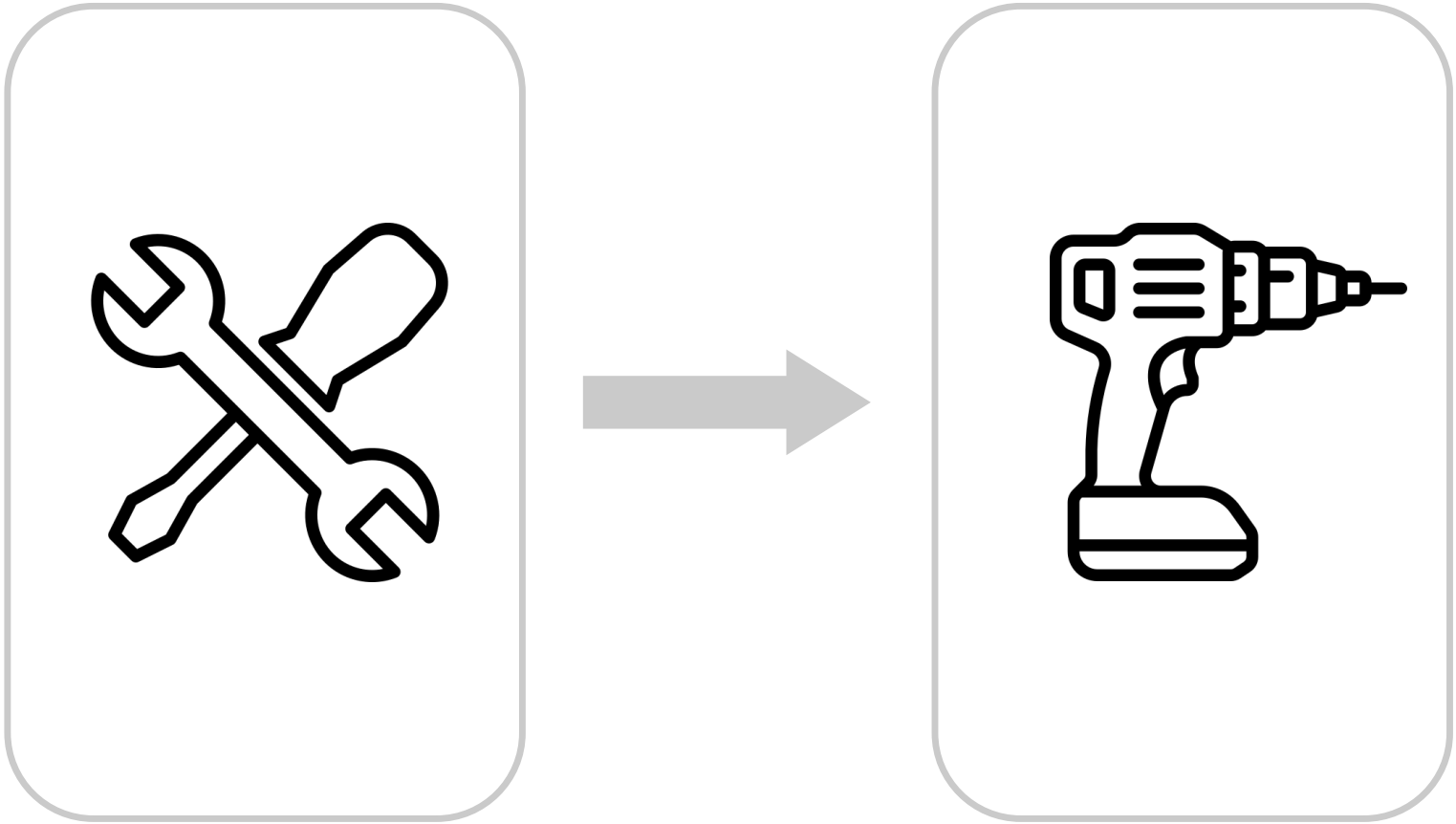


SIMPLIFY YOUR LIFE (2/4)

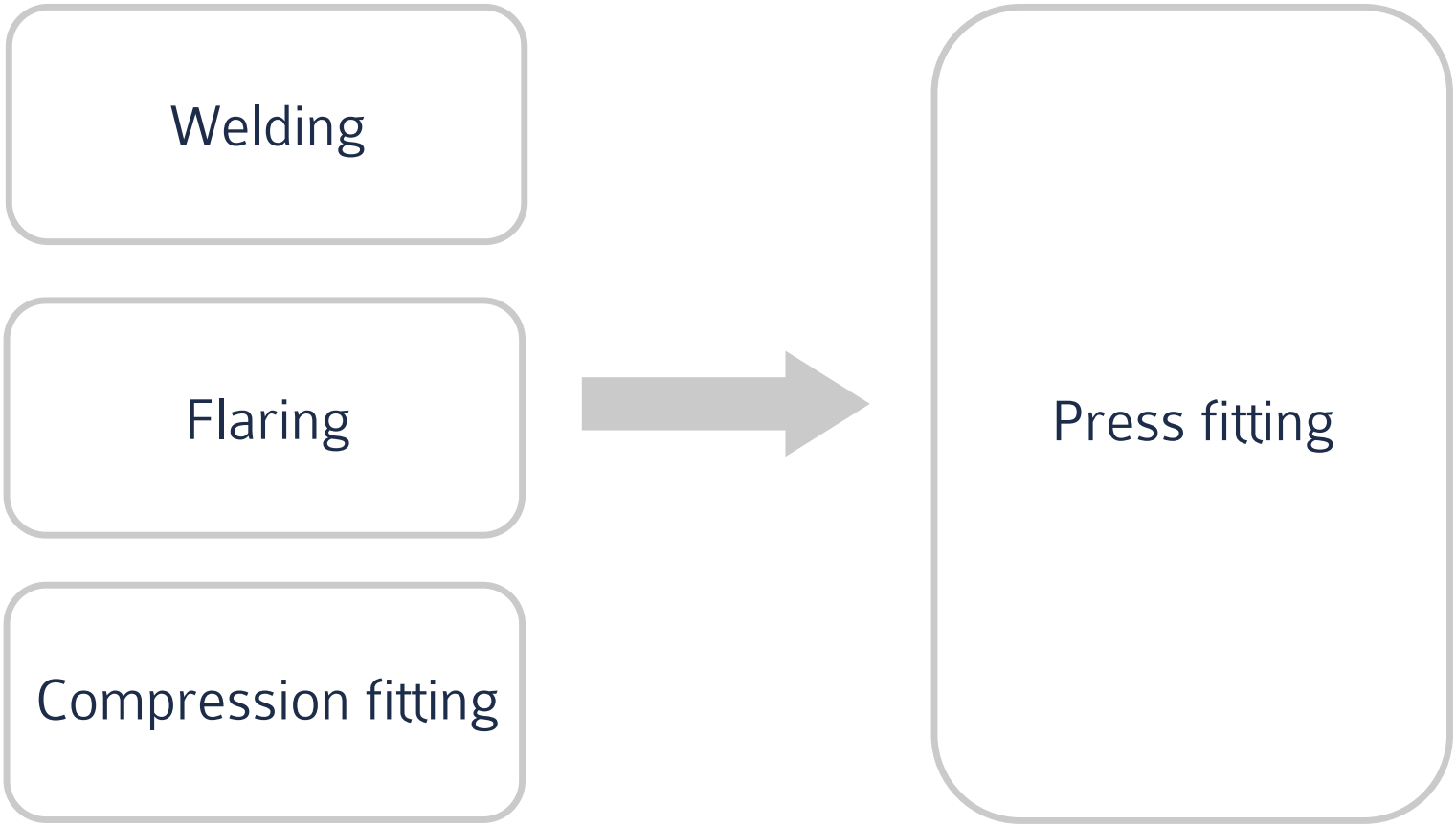




SIMPLIFY YOUR LIFE (3/4)



SIMPLIFY YOUR LIFE (4/4)



PARADIGM SHIFT WITHIN SANITARY INSTALLATION INDUSTRY

FIPE
connecting pipes

Back in the days

Threaded fittings, soldering and welding

1985 until today

Low-pressure press fitting systems

WHY DID THAT TECHNOLOGY CHANGE HAPPEN?

- Short lead times of projects
- Lack of qualified staff
- General pressure on project cost
- Buildings/objects were getting bigger and bigger
- Installation/modification while operation (cleanliness)
- Request of industry for an easy, safe and cost-efficient installation process

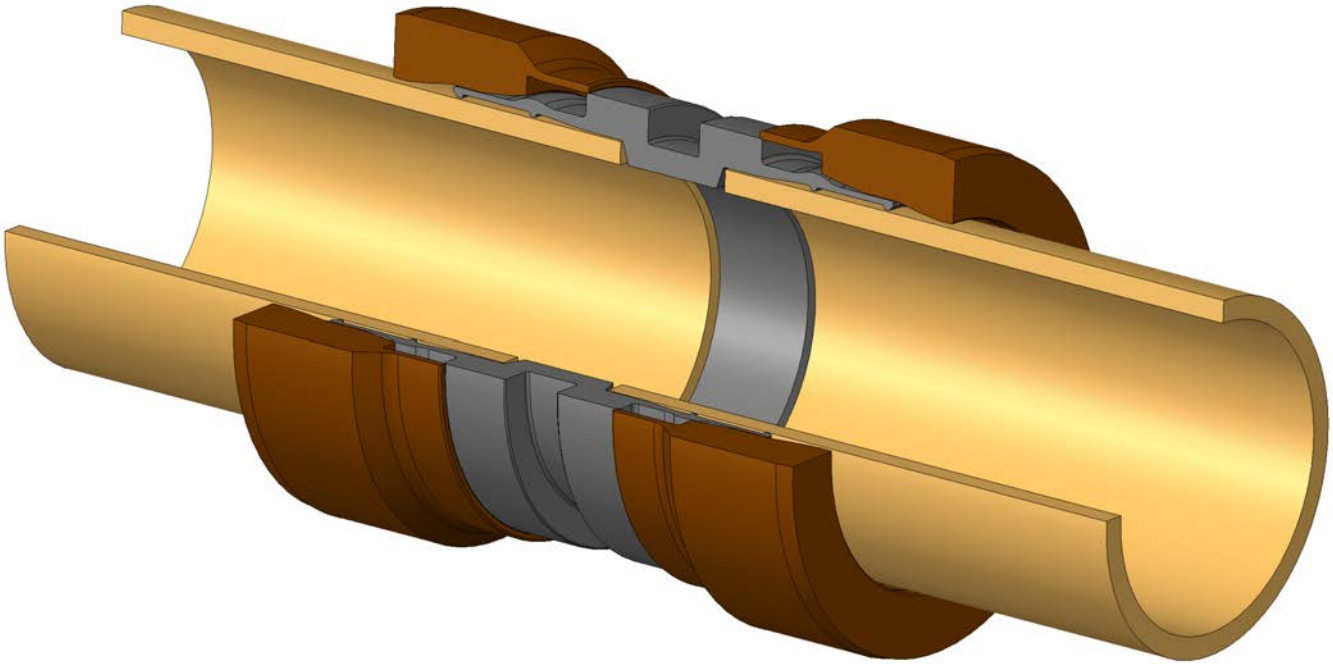
HIGH-PRESSURE PRESS FITTING TECHNOLOGY

COMMON WORK PROCESS OF HIGH-PRESSURE PRESS FITTING SYSTEMS

TECHNICAL PRINCIPLE (1/3)

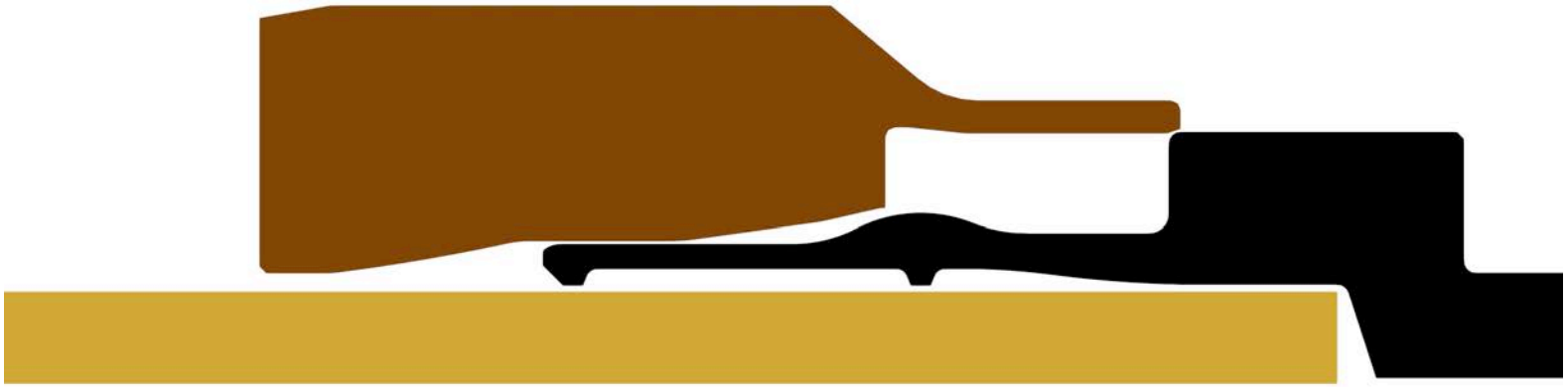
FIPE
connecting pipes

Cross section through fitting and pipe



TECHNICAL PRINCIPLE (2/3)

Cross section through fitting and pipe



COMMON TECHNICAL SPECIFICATION

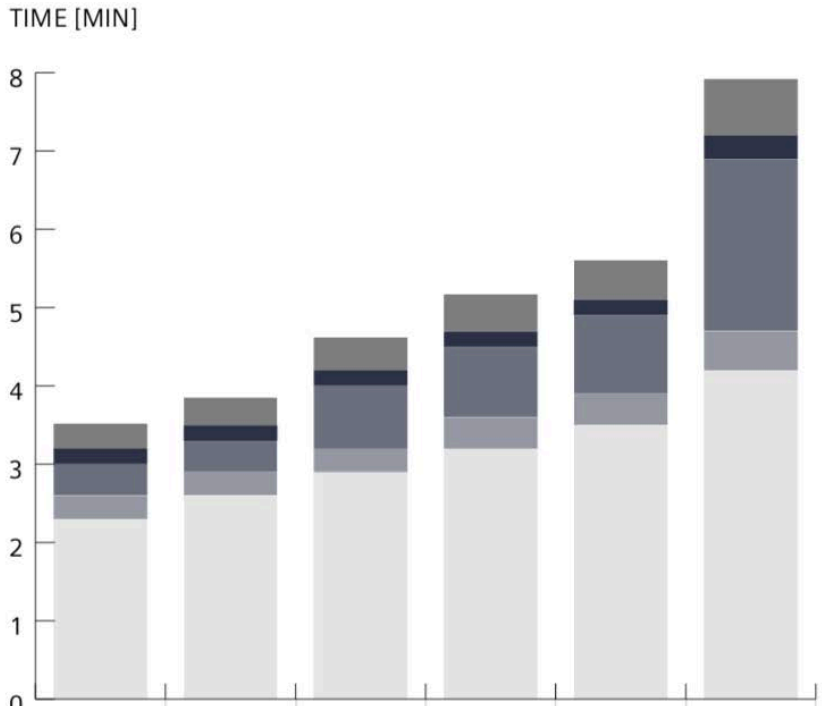
Sealing principle	True metal-to-metal (no gaskets)
Application for media	Liquids or gases
Working pressure	140 bar @ Safety factor 4
Test pressure	210 bar
Pipe dimensions	10.0mm – 88.9mm
Compatible pipe material	Stainless steel or carbon steel
Pipe processing	Welded or seamless pipes

APPROPRIATE INSTALLATION METHOD

COMPARISON OF INSTALLATION METHODS IN USE

	Welding	Flaring	Compression fitting	Press fitting
Requirement of metal-to-metal sealing (long-term stability)	↑	↓	↑	↑
Uniform installation method for all sizes	↑	↑	↓	↑
Need and availability of skilled labour	↓	↑	↑	↑
Mobility of installation equipment (hands-on-tool time)	→	→	→	↑
Running costs on pipe connection material	↑	→	↑	→
Reproducibility of installation process (human influence)	↓	↑	→	↑
Pre and post processing	↓	↑	↑	↑
Potential leakage rate	→	↑	→	↑
Suitability for modifications	↓	↑	↑	↓

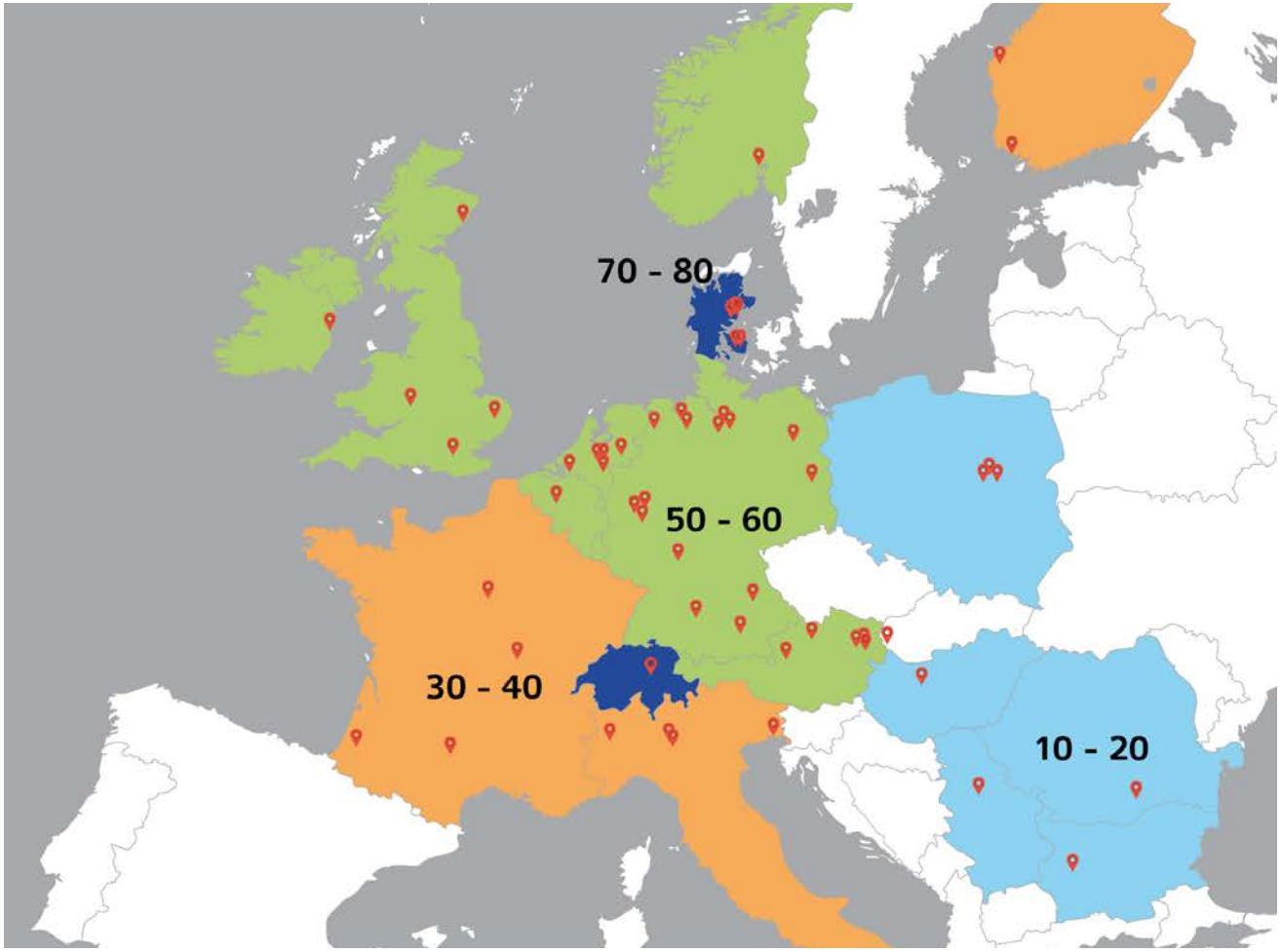
PRESS FITTING INSTALLATION TIME



1/4″	1/2″	1″	1 1/2″	2″	3″	PIPE-OD [INCH]
2.3	2.6	2.9	3.2	3.5	4.2	Preparation
0.3	0.3	0.3	0.4	0.4	0.5	Insertion
0.4	0.4	0.8	0.9	1.0	2.2	Pressing
0.2	0.2	0.2	0.2	0.2	0.3	Checking
0.3	0.4	0.4	0.5	0.5	0.7	10% Reserve
3.5	**3.9**	**4.6**	**5.2**	**5.6**	**7.9**	**Total in Minutes**

Installation time for one Straight fitting in minutes

DIFFERENT MOTIVATIONS @ DIFFERENT LOCATIONS



Average labour costs in EUR / h


PROJECT EXAMPLES

BUT! – PRESS FITTINGS MIGHT NOT BE THE MEDICAL CURE FOR IT ALL

- Demands on installation method may vary from project to project
- Company-specific conditions must be considered
- Thus, the right method might be one of them:

Compression fitting

Flaring

Welding

Press fitting

- ...or maybe a combination of several methods

THIRD-PARTY SYSTEM INTERFACES AVAILABLE

Straight male connector

Straight female connector

Straight male thread

Straight female thread

Straight flange SAE

Straight flange DIN EN

Straight detach male thread

Pressure test plug

MEYER WERFT, PAPENBURG GERMANY

Dimensions in place (mm)	60.3, 38.0, 30.0, 16.0, 12.0
Connection methods in use	Press fittings and compression fittings
Reason for choosing corresponding methods	Ease of press fittings Modification option of compression fittings

TRANSMISSION CABLE TUNNEL, SINGAPORE

Dimensions in place (mm)	88.9, 42.4, 16.0, 12.0
Connection methods in use	Press fittings, welding and flaring
Reason for choosing corresponding methods	Ease of press fittings, no hot permit needed Welding due to strong pre-fab capacities Compression fittings due to low labour costs

HOSPITAL, AARHUS DENMARK

Dimensions in place (mm)	60.3, 42.4, 15.0
Connection methods in use	Press fittings
Reason for choosing corresponding methods	Ease of press fittings, one installation method with low leakage rate

BIGGEST CHALLANGE FOR HPWM INDUSTRY
➔ PROJECT COST

- High work pressure (120 bar plus) requires:
  - Strong and efficient pumps
  - Rigid pipe clamping systems
  - High quality stainless steel pipe works
  - Solid pipe connection components
  - Elaborate nozzles

Continuous innovation and cost reduction is key to market growth

WHAT CAN EACH ONE OF US DO? (1/4)

HPWM planning company

Pipe installation planning according to HPWM needs

WHAT CAN EACH ONE OF US DO? (2/4)

HPWM
pipe installation
company

Find out
appropriate
installation method
according to your
needs

WHAT CAN EACH ONE OF US DO? (3/4)

HPWM system provider

Allow installation companies to use the best suitable pipe connection method

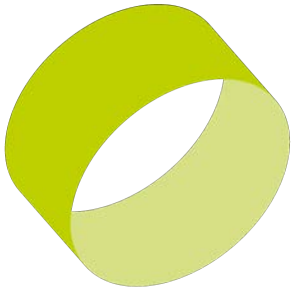
WHAT CAN EACH ONE OF US DO? (4/4)

HPWM
pipe connection
supplier

Bring up clever
HPWM solutions
and keep on cutting
down costs on
components

SUMMARY

Go with the flow, don’t fight the tide!



FIPE

connecting pipes

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