

NO: 04-20_Product Launch TIH / Phase-out TX3
DATE: 05.02.2020
TO: **All customers**
FROM: **Emerson Commercial & Residential Solutions – Europe**
Emerson Climate Technologies GmbH

Current TX3 product Phase-out – Replacement by TIH

The improvement of components is a never-ending process. Higher working pressure, better performance in systems with modulation, new refrigerants, reversible systems to support energy saving trend, are examples in our industry.

Emerson Commercial and Residential Solutions announces the phase-out of current TX3 product range within a transition period and replacement by TIH.

TIH is a direct drop-in for TX3, and is designed to cover the latest market requirements such as durability for higher working pressures, capacity modulation etc.

The information in the next pages shows the features, performance and advantages of TIH over TX3.

Transition time:

The last call for ordering of TX3: July 2020

Remark: No order for TX3 will be accepted after July 2020

New Product Launch – Thermo™ Expansion valve

Emerson Commercial & Residential Solutions is pleased to announce the release of the new range of TIH Thermo™ expansion valves.

TIH is a direct drop-in for TX3, and is a monoblock, hermetic valve, suitable for heat pumps, air conditioning, small chillers, precision cooling and refrigeration. TIH is ideal for those applications requiring hermetic / compact size combined with stable and accurate control over wide load and modulation capacity.



Product Range and Key Features:

- 12 sizes up to 33,2 kW (R410A)
- Maximum working pressure: 46 bar
- Factory test pressure: 1,1xPS=50,6 bar
- Adjustable superheat

- Tailored power element charges for different refrigerants:
 - Standard refrigerants: R410A/R32/R452B/R454B, R134a, R448A/R449A, R407C, R513A
 - Other refrigerants: R404A, R450A (by adjustment of the superheat)
- Bi-Flow application
- Applicable in systems with **Copeland Scroll Digital™**, stepless and variable speed compressors
- Higher reliability and maximum lifespan thanks to new laser welded diaphragm with larger diameter
- Better load changes withstanding thanks to the enhanced design of the diaphragm, enabling negligible hysteresis (on the refrigerant flow)
- Designed and qualified according to EN 16084 for external leakage supporting F-Gas regulation
- Bleed function (upon request and minimum order quantity of 100 pieces per size and each order)
- Manufactured in Europe, better delivery times

Product Documentation:

- Technical Bulletin
- Operating Instructions
- Product Presentation (on request)
- TIH Leaflet

Pricing: Please contact your local Emerson sales offices

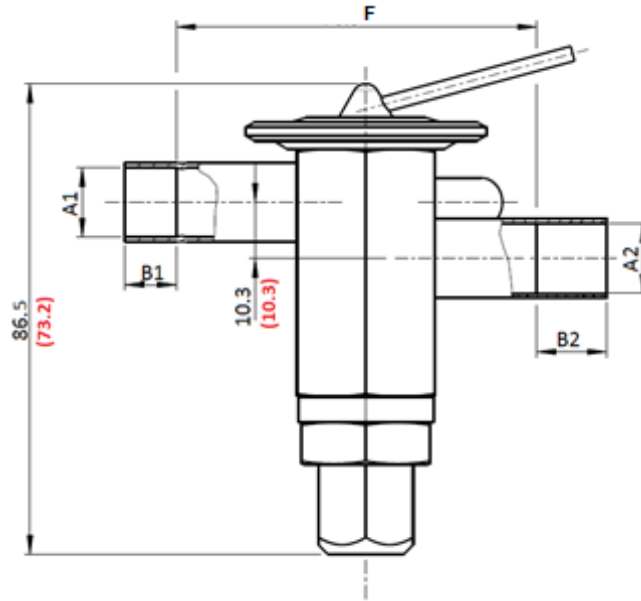
Product Availability:

- Immediately Available

Product Selection and Ordering: Technical bulletin and selection tool Navigator 2019 available for selection and ordering.

Comparison dimensions (mm):

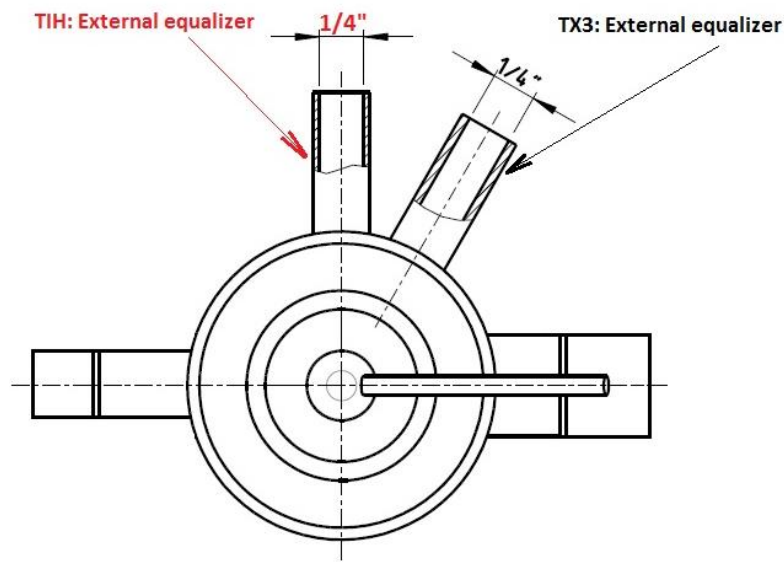
TX3 / **TIH** dimension



Other dimensions (inch and mm)

Type	A1 (inch)		B1 (mm)		A2 (inch)		B2 (mm)		F (mm)	
	TX3	TIH	TX3	TIH	TX3	TIH	TX3	TIH	TX3	TIH
2-3	1/4"	1/4"	7.9	8	3/8"	3/8"	7.9	8	71.6	71.5
4-6	3/8"	3/8"	7.9	8	1/2"	1/2"	9.5	10	70.8	70.8
7-9	1/2"	1/2"	9.5	10	5/8"	5/8"	12.7	12.7	66.4	66.3

External Equalizer Comparison dimensions: All sizes



Comparison Features:

Features	Alco TIH-...	Alco TX3-...	Remarks
Balanced port	Yes ✓	No ✘	Eliminates disturbance of inlet pressure during cooling operation, allowing stable superheat control
PS (MWP)	46 bar	45 bar	46 bar meets R410A/R32 system requirement
Factory pressure test	50,6 bar	48,3 bar	System manufacturers can perform circuit pressure tight according to EN378
Diaphragm diameter	45 mm	45 mm	Large diaphragm enables smooth and stable superheat through different operating conditions
Material compability	R410A, R32, R452B, R454B, R134a, R448A, R449A, R407C, R513A, R290*	R410A, R134a, R407C, R290	TIH series is available for A2L refrigerants
Single pack version	Yes ✓	No ✘	For service and sampling purposes
Multipack	20 pieces	24 pieces	No individual packaging
Metric connections	Yes ✓	On request	
Manufacturing location	Czech Republic, Europe	Mexico	Shorter lead times

*Please see R290 product guide for TIH-P...-FLR versions

The tables below indicates the capacity range for refrigerants R410A/R32

Capacity (kW)		Metric connection		Imperial connection		Connection		
R32	R410A	Type	Part No.	Type	Part No.	Inlet	Outlet	Equalizer
5.4	3.6	TIH-Z12m	802622M			6 mm	10 mm	internal
5.4	3.6			TIH-Z12	802636M	1/4"	3/8"	internal
9.0	6.0	TIH-Z13m	802623M			6 mm	10 mm	internal
9.0	6.0			TIH-Z13	802637M	1/4"	3/8"	internal
12.5	8.4	TIH-Z14m	802624M			10 mm	12 mm	internal
12.5	8.4			TIH-Z14	802638M	3/8"	1/2"	internal
5.4	3.6	TIH-Z32m	802625M			6 mm	10 mm	6 mm
5.4	3.6			TIH-Z32	802639M	1/4"	3/8"	1/4"
9.0	6.0	TIH-Z33m	802626M			6 mm	10 mm	6 mm
9.0	6.0			TIH-Z33	802640M	1/4"	3/8"	1/4"
12.5	8.4	TIH-Z34m	802627M			10 mm	12 mm	6 mm
12.5	8.4			TIH-Z34	802641M	3/8"	1/2"	1/4"
18.4	12.4	TIH-Z35m	802628M			10 mm	12 mm	6 mm
18.4	12.4			TIH-Z35	802642M	3/8"	1/2"	1/4"
21.8	14.6	TIH-Z36m	802629M			10 mm	12 mm	6 mm
21.8	14.6			TIH-Z36	802643M	3/8"	1/2"	1/4"
31.0	20.8	TIH-Z37m	802630M			12 mm	16 mm	6 mm
31.0	20.8			TIH-Z37	802644M	1/2"	5/8"	1/4"
34.6	23.2	TIH-Z38m	802631M			12 mm	16 mm	6 mm
34.6	23.2			TIH-Z38	802645M	1/2"	5/8"	1/4"
39.7	26.7	TIH-Z39m	802632M			12 mm	16 mm	6 mm
39.7	26.7			TIH-Z39	802646M	1/2"	5/8"	1/4"
49.4	33.2	TIH-Z3Am	802633M			12 mm	16 mm	6 mm
49.4	33.2			TIH-Z3A	802647M	1/2"	5/8"	1/4"

Comparison Capacities

R410A:

With MOP		Connection			Nominal capacity [kW]		Standard MOP		Connection		
Type	Part No.	Inlet	Outlet	Equalizer	R32	R410A	Type	Part No.	Inlet	Outlet	Equalizer
-	-	-	-	-	5.4	3.6	TIH-Z12 m	802622M	6 mm	10 mm	Internal
-	-	-	-	-	5.4	3.6	TIH-Z12	802636M	1/4"	3/8"	Internal
-	-	-	-	-	9.0	6.0	TIH-Z13 m	802623M	6 mm	10 mm	Internal
-	-	-	-	-	9.0	6.0	TIH-Z13	802637M	1/4"	3/8"	Internal
-	-	-	-	-	12.5	8.4	TIH-Z14 m	802624M	10 mm	12 mm	Internal
-	-	-	-	-	12.5	8.4	TIH-Z14	802638M	3/8"	1/2"	Internal
-	-	-	-	-	5.4	3.6	TIH-Z32 m	802625M	6 mm	10 mm	6 mm
TX3-Z32	801942M	1/4"	3/8"	1/4"	5.4	3.6	TIH-Z32	802639M	1/4"	3/8"	1/4"
-	-	-	-	-	9.0	6.0	TIH-Z33 m	802626M	6 mm	10 mm	6 mm
TX3-Z33	801943M	1/4"	3/8"	1/4"	9.0	6.0	TIH-Z33	802640M	1/4"	3/8"	1/4"
-	-	-	-	-	12.5	8.4	TIH-Z34 m	802627M	10 mm	12 mm	6 mm
TX3-Z34	801944M	3/8"	1/2"	1/4"	12.5	8.4	TIH-Z34	802641M	3/8"	1/2"	1/4"
-	-	-	-	-	18.4	12.4	TIH-Z35 m	802628M	10 mm	12 mm	6 mm
TX3-Z35	801945M	3/8"	1/2"	1/4"	18.4	12.4	TIH-Z35	802642M	3/8"	1/2"	1/4"
-	-	-	-	-	21.8	14.6	TIH-Z36 m	802629M	10 mm	12 mm	6 mm
TX3-Z36	801946M	3/8"	1/2"	1/4"	21.8	14.6	TIH-Z36	802643M	3/8"	1/2"	1/4"
-	-	-	-	-	31.0	20.8	TIH-Z37 m	802630M	12 mm	16 mm	6 mm
TX3-Z37	801947M	1/2"	5/8"	1/4"	31.0	20.8	TIH-Z37	802644M	1/2"	5/8"	1/4"
-	-	-	-	-	34.6	23.2	TIH-Z38 m	802631M	12 mm	12 mm	6 mm
TX3-Z38	801948M	1/2"	5/8"	1/4"	34.6	23.2	TIH-Z38	802645M	1/2"	1/2"	1/4"
-	-	-	-	-	39.7	26.7	TIH-Z39 m	802632M	12 mm	12 mm	6 mm
-	-	-	-	-	39.7	26.7	TIH-Z39	802646M	1/2"	1/2"	1/4"
-	-	-	-	-	49.4	33.2	TIH-Z3A m	802633M	12 mm	16 mm	6 mm
-	-	-	-	-	49.4	33.2	TIH-Z3A	802647M	1/2"	5/8"	1/4"



Marketing

ALCO CONTROLS

BULLETIN

R134a:

Without MOP		With MOP		Connection			Nominal capacity [kW]	Without MOP		With MOP		Connection		
Type	Part No.	Type	Part No.	Inlet	Outlet	Equalizer		Type	Part No.	Type	Part No.	Inlet	Outlet	Equalizer
TX3-M01	801765M	TX3-M11	801777M	1/4"	3/8"	Internal	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2.4	TIH-M02 m	802510M	TIH-M12 m	802538M	6 mm	10 mm	Internal
TX3-M02	801766M	TX3-M12	801778M	1/4"	3/8"	Internal	2.4	TIH-M02	802524M	TIH-M12	802552M	1/4"	3/8"	Internal
-	-	-	-	-	-	-	4.0	TIH-M03 m	802511M	TIH-M13 m	802539M	6 mm	10 mm	Internal
TX3-M03	801767M	TX3-M13	801779M	1/4"	3/8"	Internal	4.0	TIH-M03	802525M	TIH-M13	802553M	1/4"	3/8"	Internal
-	-	-	-	-	-	-	5.6	TIH-M04 m	802512M	TIH-M14 m	802540M	10 mm	12 mm	Internal
TX3-M04	801768M	-	-	3/8"	1/2"	Internal	5.6	TIH-M04	802526M	TIH-M14	802554M	3/8"	1/2"	Internal
-	-	-	-	-	-	-	2.4	TIH-M22 m	802512M	TIH-M32 m	802541M	6 mm	10 mm	6 mm
TX3-M22	801769M	TX3-M32	801781M	1/4"	3/8"	1/4"	2.4	TIH-M22	802527M	TIH-M32	802555M	1/4"	3/8"	1/4"
-	-	-	-	-	-	-	4.0	TIH-M23 m	802514M	TIH-M33 m	802542M	6 mm	10 mm	6 mm
TX3-M23	801770M	TX3-M33	801782M	1/4"	3/8"	1/4"	4.0	TIH-M23	802528M	TIH-M33	802556M	1/4"	3/8"	1/4"
-	-	-	-	-	-	-	5.6	TIH-M24 m	802515M	TIH-M34 m	802543M	10 mm	12 mm	6 mm
TX3-M24	801771M	TX3-M34	801783M	3/8"	1/2"	1/4"	5.6	TIH-M24	802529M	TIH-M34	802544M	3/8"	1/2"	1/4"
TX3-M25 MM	801923M	-	-	10 mm	12 mm	6 mm	8.2	TIH-M25 m	802516M	TIH-M35 m	802544M	10 mm	12 mm	6 mm
TX3-M25	801772M	TX3-M35	801784M	3/8"	1/2"	1/4"	8.2	TIH-M25	802530M	TIH-M35	802558M	3/8"	1/2"	1/4"
TX3-M26 MM	801925M	-	-	10 mm	12 mm	6 mm	9.7	TIH-M26 m	802517M	TIH-M36 m	802545M	10 mm	12 mm	6 mm
TX3-M26	801773M	TX3-M36	801785M	3/8"	1/2"	1/4"	9.7	TIH-M26	802531M	TIH-M36	802559M	3/8"	1/2"	1/4"
TX3-M27 MM	801931M	-	-	12 mm	16 mm	6 mm	13.8	TIH-M27 m	802518M	TIH-M37 m	802546M	12 mm	16 mm	6 mm
TX3-M27	801774M	TX3-M37	801786M	1/2"	5/8"	1/4"	13.8	TIH-M27	802532M	TIH-M37	802560M	1/2"	5/8"	1/4"
-	-	-	-	-	-	-	15.4	TIH-M28 m	802519M	TIH-M38 m	802547M	10 mm	12 mm	6 mm
TX3-M28	801775M	TX3-M38	801787M	1/2"	5/8"	1/4"	15.4	TIH-M28	802533M	TIH-M38	802561M	3/8"	1/2"	1/4"
-	-	-	-	-	-	-	17.7	TIH-M29 m	802520M	TIH-M39 m	802548M	10 mm	12 mm	6 mm
TX3-M29	801776M	TX3-M39	801788M	1/2"	5/8"	1/4"	17.7	TIH-M29	802534M	TIH-M39	802562M	3/8"	1/2"	1/4"
-	-	-	-	-	-	-	22.0	TIH-M2A m	802521M	TIH-M3A m	802549M	10 mm	12 mm	6 mm
-	-	-	-	-	-	-	22.0	TIH-M2A	802535M	TIH-M3A	802563M	3/8"	1/2"	1/4"

R407C:

Without MOP		With MOP		Connection			Nominal capacity [kW]	Standard MOP		With less MOP		Connection		
Type	Part No.	Type	Part No.	Inlet	Outlet	Equalizer		Type	Part No.	Type	Part No.	Inlet	Outlet	Equalizer
TX3-N01	801813M	-	-	1/4"	3/8"	Internal	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2.5	TIH - N02 m	802566M	TIH -N12 m	802594M	6 mm	10 mm	Internal
TX3-N02	801814M	TX3-N12	801827M	1/4"	3/8"	Internal	2.5	TIH - N02	802580M	TIH -N12	802608M	1/4" x	3/8"	Internal
-	-	-	-	-	-	-	3.8	TIH - N03 m	802567M	TIH -N13 m	802595M	6 mm	10 mm	Internal
TX3-N03	801815M	TX3-N13	801828M	1/4"	3/8"	Internal	3.8	TIH - N03	802581M	TIH -N13	802609M	1/4" x	3/8"	Internal
-	-	-	-	-	-	-	5.6	TIH - N04 m	802568M	TIH -N14 m	802596M	10 mm	12 mm	Internal
-	-	-	-	-	-	-	5.6	TIH - N04	802582M	TIH -N14	802610M	3/8" x	1/2"	Internal
-	-	TX3-N32 MM	801940M	6 mm	10 mm	6 mm	2.5	TIH - N22 m	802569M	TIH -N32 m	802597M	6 mm	10 mm	6 mm
TX3-N22	801818M	TX3-N32	801831M	1/4"	3/8"	1/4"	2.5	TIH - N22	802583M	TIH -N32	802611M	1/4" x	3/8"	1/4"
-	-	-	-	-	-	-	3.9	TIH - N23 m	802570M	TIH -N33 m	802598M	6 mm	10 mm	6 mm
TX3-N23	801819M	TX3-N33	801832M	1/4"	3/8"	1/4"	3.9	TIH - N23	802584M	TIH -N33	802612M	1/4" x	3/8"	1/4"
TX3-N24 MM	801928M	-	-	3/8"	1/2"	1/4"	5.6	TIH - N24 m	802571M	TIH -N34 m	802599M	10 mm	12 mm	6 mm
TX3-N24	801820M	TX3-N34	801833M	3/8"	1/2"	1/4"	5.6	TIH - N24	802585M	TIH -N34	802613M	3/8" x	1/2"	1/4"
TX3-N25 MM	801929M	TX3-N35 MM	801939M	3/8"	1/2"	1/4"	8.4	TIH - N25 m	802572M	TIH -N35 m	802600M	10 mm	12 mm	6 mm
TX3-N25	801821M	TX3-N35	801834M	3/8"	1/2"	1/4"	8.4	TIH - N25	802586M	TIH -N35	802614M	3/8" x	1/2"	1/4"
TX3-N26 MM	801930M	-	-	3/8"	1/2"	1/4"	11.6	TIH - N26 m	802573M	TIH -N36 m	802601M	10 mm	12 mm	6 mm
TX3-N26	801822M	TX3-N36	801835M	3/8"	1/2"	1/4"	11.6	TIH - N26	802587M	TIH -N36	802614M	3/8" x	1/2"	1/4"
TX3-N27 MM	801935M	-	-	12 mm	16 mm	6 mm	14.2	TIH - N27 m	802574M	TIH -N37 m	802602M	12 mm	16 mm	6 mm
TX3-N27	801823M	TX3-N37	801836M	1/2" x	5/8"	1/4"	14.2	TIH - N27	802588M	TIH -N37	802616M	1/2" x	5/8"	1/4"
TX3-N28 MM	801932M	-	-	10 mm	12 mm	6 mm	16.9	TIH - N28 m	802575M	TIH -N38 m	802603M	10 mm	12 mm	6 mm
TX3-N28	801824M	TX3-N38	801837M	1/2" x	5/8"	1/4"	16.9	TIH - N28	802589M	TIH -N38	802617M	3/8" x	1/2"	1/4"
TX3-N29 MM	801933M	-	-	10 mm	12 mm	6 mm	23.0	TIH - N29 m	802576M	TIH -N39 m	802604M	10 mm	12 mm	6 mm
TX3-N29	801825M	TX3-N39	801838M	1/2" x	5/8"	1/4"	23.0	TIH - N29	802590M	TIH -N39	802618M	3/8" x	1/2"	1/4"
-	-	-	-	-	-	-	30.0	TIH - N2A m	802577M	TIH -N3A m	802605M	10 mm	12 mm	6 mm
-	-	-	-	-	-	-	30.0	TIH - N2A	802591M	TIH -N3A	802619M	3/8" x	1/2"	1/4"