

# Package ‘twopiece’

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**Type** Package  
**Title** The family of twopiece distributions  
**Version** 0.1.0  
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**Maintainer** The package maintainer <fxrubio@gmail.com>  
**Description** Density, distribution function, quantile function and random generation for the 3-parameter twopiece distribution with 3 parameterizations: two-piece (tp), epsilon-skew (eps), and inverse scale factors (isf).  
**License** GPL-3  
**Encoding** UTF-8  
**LazyData** true  
**RoxygenNote** 7.1.1

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dtp3	<i>Probability Density Function for 3-parameter twopiece distributions</i>
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## Description

Probability Density Function for 3-parameter twopiece distributions

## Usage

dtp3(x, mu, par1, par2, FUN, param = "tp", log = FALSE)

**Arguments**

log	log.p: logical; if TRUE, probabilities p are given as log(p).
x:	vector of quantiles.
p:	vector of probabilities.
n:	number of observations. If length(n) > 1, the length is taken to be the number required.
mu:	location parameter.
par1:	scale parameter 1.
par2:	scale parameter 2.
FUN:	a symmetric density f.
param:	parameterizations used.

dtp4

*Probability Density Function for 4-parameter twopiece distributions***Description**

Probability Density Function for 4-parameter twopiece distributions

**Usage**

```
dtp4(x, mu, par1, par2, delta, FUN, param = "tp", log = FALSE)
```

**Arguments**

log	log.p: logical; if TRUE, probabilities p are given as log(p).
x:	vector of quantiles.
p:	vector of probabilities.
n:	number of observations. If length(n) > 1, the length is taken to be the number required.
mu:	location parameter.
par1:	scale parameter 1.
par2:	scale parameter 2.
delta:	shape parameter.
FUN:	a symmetric density f.
param:	parameterizations used.

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ptp3	<i>Cumulative Probability Function for 3-parameter twopiece distributions</i>
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**Description**

Cumulative Probability Function for 3-parameter twopiece distributions

**Usage**

```
ptp3(x, mu, par1, par2, FUN, param = "tp", log.p = FALSE)
```

**Arguments**

x:	vector of quantiles.
p:	vector of probabilities.
n:	number of observations. If length(n) > 1, the length is taken to be the number required.
mu:	location parameter.
par1:	scale parameter 1.
par2:	scale parameter 2.
FUN:	a symmetric density f.
param:	parameterizations used.
log	log.p: logical; if TRUE, probabilities p are given as log(p).

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ptp4	<i>Cumulative Probability Function for 4-parameter twopiece distributions</i>
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**Description**

Cumulative Probability Function for 4-parameter twopiece distributions

**Usage**

```
ptp4(x, mu, par1, par2, delta, FUN, param = "tp", log.p = FALSE)
```

**Arguments**

x:	vector of quantiles.
p:	vector of probabilities.
n:	number of observations. If length(n) > 1, the length is taken to be the number required.
mu:	location parameter.
par1:	scale parameter 1.
par2:	scale parameter 2.

delta: shape parameter.  
 FUN: a symmetric density f.  
 param: parameterizations used.  
 log: log.p: logical; if TRUE, probabilities p are given as log(p).

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qtp3 *Quantile Function for 3-parameter twopiece distributions*

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### Description

Quantile Function for 3-parameter twopiece distributions

### Usage

```
qtp3(p, mu, par1, par2, FUN, param = "tp")
```

### Arguments

x: vector of quantiles.  
 p: vector of probabilities.  
 n: number of observations. If length(n) > 1, the length is taken to be the number required.  
 mu: location parameter.  
 par1: scale parameter 1.  
 par2: scale parameter 2.  
 FUN: a symmetric density f.  
 param: parameterizations used.  
 log: log.p: logical; if TRUE, probabilities p are given as log(p).

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qtp4 *Quantile Function for 4-parameter twopiece distributions*

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### Description

Quantile Function for 4-parameter twopiece distributions

### Usage

```
qtp4(p, mu, par1, par2, delta, FUN, param = "tp")
```

**Arguments**

x:	vector of quantiles.
p:	vector of probabilities.
n:	number of observations. If $\text{length}(n) > 1$ , the length is taken to be the number required.
mu:	location parameter.
par1:	scale parameter 1.
par2:	scale parameter 2.
delta:	shape parameter.
FUN:	a symmetric density f.
param:	parameterizations used.
log	log.p: logical; if TRUE, probabilities p are given as $\log(p)$ .

rtp3

*Random Number Generation Function for 3-parameter twopiece distributions***Description**

Random Number Generation Function for 3-parameter twopiece distributions

**Usage**

```
rtp3(n, mu, par1, par2, FUN, param = "tp")
```

**Arguments**

x:	vector of quantiles.
p:	vector of probabilities.
n:	number of observations. If $\text{length}(n) > 1$ , the length is taken to be the number required.
mu:	location parameter.
par1:	scale parameter 1.
par2:	scale parameter 2.
FUN:	a symmetric density f.
param:	parameterizations used.
log	log.p: logical; if TRUE, probabilities p are given as $\log(p)$ .

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rtp4	<i>Random Number Generation Function for 4-parameter twopiece distributions</i>
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**Description**

Random Number Generation Function for 4-parameter twopiece distributions

**Usage**

```
rtp4(n, mu, par1, par2, delta, FUN, param = "tp")
```

**Arguments**

x:	vector of quantiles.
p:	vector of probabilities.
n:	number of observations. If length(n) > 1, the length is taken to be the number required.
mu:	location parameter.
par1:	scale parameter 1.
par2:	scale parameter 2.
delta:	shape parameter.
FUN:	a symmetric density f.
param:	parameterizations used.
log	log.p: logical; if TRUE, probabilities p are given as log(p).

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